REQUEST FOR PROPOSALS
TO DESIGN AND CONSTRUCT
THE I-85 WIDENING FROM NORTH OF SR 53 TO NORTH OF SR 11/US 129 PROJECT

THROUGH A
DESIGN-BUILD AGREEMENT

PROJECT NUMBER
P.I. No. 0013545

INSTRUCTIONS TO PROPOSERS

GEORGIA DEPARTMENT OF TRANSPORTATION

RFP Issued: January 17, 2020

Amendment 1 Issued: February 26, 2020

Amendment 2 Issued: March 27, 2020

Amendment 3 Issued: April 8, 2020

Proposals Due: April 16, 2020 at 11:00 A.M.

Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308
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SECTION 1.0 INTRODUCTION AND GENERAL PROVISIONS

1.1 Introduction

The Georgia Department of Transportation (GDOT), an agency of the State of Georgia (State), issued a Request for Qualifications (RFQ) for the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (as described in more detail in Section 1.3, the “Project”) dated November 1, 2019. GDOT issued a Request for Proposals (RFP), dated January 17, 2020.

The RFP solicits competitive Proposals (as described in more detail in Section 1.5.1) from qualified Proposers to develop the Project by means of a Design-Build Agreement (the “Agreement”) between the successful Proposer and GDOT. Under such Agreement, the Design-Build Team will be required to design and construct the Project during the Contract Time.

Following the release of the RFP, GDOT may opt to engage in a series of confidential meetings and discussions with the Proposers, all in accordance with the procedures set forth in the RFP. In response to feedback and input received from the Proposers and other stakeholders, GDOT may opt to issue Amendments to the Instructions to Proposers (ITP) and/or RFP. If GDOT issues an Amendment to the RFP, the Amendment will supplement or replace the RFP in part or in whole.

Proposals will only be considered from those entities that are selected as the most qualified Proposers based on their Statements of Qualifications (SOQs) submitted in response to the RFQ. This ITP provides instructions to be followed by Proposers in their responses to the RFP.

This RFP is issued in accordance with the provisions of Section 32-2-81 of the Official Code of Georgia Annotated (Code), Chapter 672-18 of the Rules of the State Department of Transportation, Governing the Design-Build Procedures (Rules), and other applicable laws and guidelines. Proposals must comply with ITP requirements.

Refer to Exhibit 1 of the Agreement for the meaning of various capitalized terms and acronyms used but which are not defined herein. Unless otherwise specified, references to Sections, Exhibits and Forms within this ITP shall mean Sections of the ITP and Exhibits and Forms attached to the ITP. All times in this ITP are Eastern Standard Time (EST) or Eastern Daylight Time (EDT), as applicable.

1.2 RFP Documents

The RFP consists of the items listed below, and any other documents that may be issued by Amendment, as such documents may be amended and supplemented:

(a) ITP (including the attached Exhibits and Forms); and

(b) Design-Build (DB) Documents.

Refer to Article 1.2 of the Agreement for a list of the DB Documents and their order of precedence. The Reference Information Documents (RIDs) are listed in Exhibit G hereto.

The ITP and the RIDs are not contract documents and will not form a part of the DB Documents unless specifically incorporated in the Agreement. GDOT does not make any representation or guarantee as to the accuracy, completeness, or fitness of the RIDs. GDOT does not take any responsibility for the RIDs and Proposers are responsible for any conclusions they may draw from the RIDs. GDOT is making the RIDs available to Proposers for the sole purpose of
providing information in the possession of GDOT, regardless of whether such information is accurate, complete, pertinent, or of any value.

1.3 General Project Description

The Project PI 0013545 will widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of SR 11/US 129. The typical section will expand from the existing two lanes to three lanes in each direction within the existing right-of-way (ROW) width. The Project is located in Jackson County. The Work also includes the replacement of six mainline bridges and one overpass bridge. A more detailed description of the Project can be found within the DB Documents and, for reference, in the RIDs.

The Design-Build Team (DB Team) will be responsible for the design and construction of the Project during the Contract Time.

1.4 Procurement Schedule

The procurement schedule is as follows:

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<tr>
<th>Activity</th>
<th>Date</th>
<th>Time</th>
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<tbody>
<tr>
<td>1. Issue RFP</td>
<td>1/17/2020</td>
<td></td>
</tr>
<tr>
<td>2. First date that Alternative Technical Concepts (ATCs) will be accepted, under Section 3.1.2</td>
<td>1/31/2020</td>
<td>9:00 A.M.</td>
</tr>
<tr>
<td>3. Deadline for Proposers to submit questions regarding RFP – Round 1</td>
<td>2/7/2020</td>
<td>5:00 P.M.</td>
</tr>
<tr>
<td>4. One-on-one meetings with Proposers</td>
<td>2/19-20/2020</td>
<td>8:00 A.M. – 5:00 P.M.</td>
</tr>
<tr>
<td>5. Deadline for submission of proposed ATCs</td>
<td>3/24/2020</td>
<td>5:00 P.M.</td>
</tr>
<tr>
<td>6. Deadline for Proposers to submit questions regarding RFP – Round 2</td>
<td>3/27/2020</td>
<td>5:00 P.M.</td>
</tr>
<tr>
<td>7. ATC Acceptability Determination</td>
<td>3/31/2020</td>
<td></td>
</tr>
<tr>
<td>8. Deadline for submission of changes to Proposer's organization</td>
<td>4/3/2020</td>
<td>5:00 P.M.</td>
</tr>
<tr>
<td>9. Proposal Due Date</td>
<td>4/16/2020</td>
<td>11:00 A.M.</td>
</tr>
<tr>
<td>10. Letting (Selection of Apparent Successful Proposer) – Rooms 403-404</td>
<td>5/8/2020</td>
<td>11:00 A.M.</td>
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All dates set forth above and in the RFP are subject to change in GDOT's sole discretion. All times indicated are prevailing times in Atlanta, Georgia. To the extent such dates are changed, GDOT will formally notify each Proposer through the e-Builder Site described in Section 2.2. All meetings and the Letting will be held at the GDOT General Office in Atlanta, Georgia.
1.5 General Provisions Regarding Proposals

1.5.1 Proposal Contents

As used in this procurement, the term “Proposal” means a Proposer’s complete response to the RFP, including but not limited to the Proposer's:

(a) Administrative Information Submittals;

(b) Technical Proposal for the Project; and

(c) Price Proposal for the Project.

Detailed instructions regarding the Administrative Information Submittals, the Technical Proposal, and the Price Proposal are provided in Exhibit B, Exhibit C, and Exhibit D, respectively. Forms required for inclusion in the Proposals are attached to this ITP. Each Proposal component shall be clearly titled and identified, and shall be submitted without reservations, qualifications, conditions, or assumptions. Any failure to provide all the information and all completed Forms in the format specified by the ITP may result in GDOT's rejection of the Proposal or a lowered score, depending on the nature of the omission, determined by GDOT at its sole discretion. All blank spaces in the Proposal forms must be filled in as noted. No substantive change(s) should be made to the original text or structure of the Proposal Forms.

1.5.2 Inclusion of Proposal in DB Documents

Portions of the successful Proposer's Proposal will become part of the DB Documents, as applicable and to the extent specified in the Agreement. All other information is for evaluation purposes only and will not become part of the DB Documents.

1.5.3 Commitments in the Proposal

GDOT will give no consideration to tentative or qualified commitments in the Proposals. For example, GDOT will give no consideration to phrases such as “we may,” “are considering,” “will endeavor to,” or phrases of a similar nature in the evaluation process because they do not indicate a firm commitment.

1.5.4 Property of GDOT

All documents included in the Proposals submitted by Proposers in response to the RFP shall become the property of GDOT and will not be returned to the Proposer. Additionally, if the Proposer elects to accept the Payment for Work Product offered by GDOT (as described in Section 3.8), the concepts, ideas and other information contained in the Proposal shall become the property of and may be used by GDOT, except to the extent that the Proposer has clearly marked the concept, idea or other information as proprietary or protected as a trade secret and such concepts, ideas, or other information are found to be protected as proprietary or a trade secret in fact.
1.6 Improper Conduct

1.6.1 Prohibited Activities

If the Proposer, or anyone representing the Proposer, offers, gives, solicits, accepts, or receives, directly or indirectly, any advantage, gift, gratuity, discount, bribe, or loan of any sort to or from GDOT, the State Transportation Board, or officers, administrators, staff or consultants of GDOT, including agents or anyone representing the foregoing at any time during the Project procurement process: (1) GDOT shall immediately disqualify the Proposer; (2) the Proposer shall forfeit its Proposal Bond; (3) the Proposer shall not be entitled to the Payment for Work Product; and (4) GDOT may sue the Proposer for damages.

1.6.2 Non-Collusion

The Proposer shall not undertake any of the prohibited activities identified in the Non-Collusion Affidavit (Form B). Note that multiple parties are required to execute copies of Form B.

To report bid rigging activities, call the US DOT toll-free “hotline” (1-800-424-9071) Monday through Friday, 8:00 AM to 5:00 PM, Eastern time. All information will be treated confidentially, and caller anonymity will be respected.

1.6.3 Organizational Conflicts of Interest

Proposers are advised that the Conflicts of Interest Policy as referred to in GDOT’s Design-Build Manual, and the organizational conflict of interest rules found in 23 Code of Federal Regulations (CFR) Part 636, Subpart A, including 23 CFR § 636.116, apply to this procurement.

Each Proposer must include in its Proposal a full disclosure of all potential organizational conflicts of interest within its team (Form C). Note that multiple parties are required to execute copies of Form C.

The Proposer is prohibited from receiving any advice or discussing any aspect of the Project or the procurement of the Project with any person or entity with an organizational conflict of interest, including, but not limited to, the entities and individuals listed in Exhibit F (List of GDOT Project Team); and any parent, affiliate, or subsidiary of any of the foregoing entities, or an entity that is under common ownership, control or management with any of the foregoing entities.

By submitting its Proposal, each Proposer agrees that, if an organizational conflict of interest is thereafter discovered, the Proposer must make an immediate and full written disclosure to GDOT that includes a description of the action that Proposer has taken or proposes to take to avoid or mitigate such conflicts. If the Apparent Successful Proposer was aware of an organizational conflict of interest prior to award of the Agreement and did not disclose the conflict to GDOT, GDOT may terminate the Proposal for default and may award the Agreement to the next highest-scoring Proposer.

1.6.4 Restrictions on Participation

Proposers are advised that the following entities and individuals are precluded from submitting a Proposal and from participating on a Proposer team as a Participating Member, Major Non-Participating Member, Contractor, Subcontractor or subconsultant:

(a) any entity or individual listed in Exhibit F (List of GDOT Project Team). GDOT has contracted with these entities or individuals, as the case may be, to aid in the
development of the RFQ, RFP, estimates or scope of services for the Project, or to participate in the SOQ or Proposal evaluation process;

(b) any entity that is a parent, affiliate, or subsidiary of any of the entities listed in Exhibit F, or that is under common ownership, control or management with any of the foregoing entities; and

(c) any contractor who is currently suspended, debarred or voluntarily excluded under 49 CFR Part 29 or is otherwise determined to be ineligible to participate in the federal-aid highway program.

1.6.5 No Participation on More Than One Proposer Team

To ensure a fair procurement process, Participating Members and Major Non-Participating Members of Proposer teams are forbidden from participating, as a Participating Member or Major Non-Participating Member, on another Proposer team on this Project during the course of the Project procurement (i.e. until execution of the Agreement by GDOT). The foregoing prohibition extends to affiliated entities of Participating Members and Major Non-Participating Members. GDOT reserves the right to disqualify any Proposer that fails to comply with this prohibition. If a Proposer has any question as to whether or not its proposed team would be in compliance with the terms of this Section 1.6.5, such Proposer may submit the issue to GDOT in writing, describing in reasonable detail the proposed structure, and seeking clarification.

1.7 Equal Employment Opportunity (EEO)

Proposers shall not, in connection with the RFP and the DB Documents, discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, marital status, or disability. Proposers shall take affirmative action to ensure that applicants for employment and employees are not discriminated against because of their race, color, religion, sex, national origin, age, marital status, or disability. The areas requiring such affirmative action shall include, but not be limited to, the following: layoff or termination, rates of pay or other forms of compensation, employment, job assignment, promotion, demotion, transfer, recruitment and recruitment advertising, and selection for training, including apprenticeship, pre-apprenticeship, and on-the-job training.

Each Proposer must include in its Proposal an Equal Employment Opportunity Certification (Form H). Note that multiple parties are required to execute copies of Form H.

Please see Attachment 5 to Exhibit 8 of the Agreement for the federal equal employment opportunity provisions that apply to the Project.

1.8 DBE Participation

The purpose of this section is to establish criteria for acceptability of Disadvantaged Business Enterprise (DBE) firms for Work performed on this contract. The intent is to ensure all participation counted toward fulfillment of the DBE goals is (1) real and substantial, (2) actually performed by viable, independent, DBE owned firms; and (3) in accordance with the spirit of applicable laws and regulations.

The policy of GDOT is to ensure compliance with Title VI of the Civil Rights Act of 1964, 49 CFR Part 26, and related statutes and regulations in all program activities.
GDOT does not discriminate and shall take all necessary and reasonable steps to ensure nondiscrimination on the basis of race, color, religion, sex, national origin, age, marital status, or disability in the award, administration and performance of any GDOT assisted contract or in the administration of its DBE Program.

All Proposers shall submit a completed “Construction Contractors Bid Opportunity List” (Form E) to GDOT in accordance with ITP Exhibit B, Section B.2.1.5 as a matter of Proposer responsibility.

DBE payments and commitments shall be separate and distinct and cannot be transferred or combined in any manner.

The DBE Goal specified in the Agreement will be a percentage representing the DBE Race Conscious Participation. The DB Team will strive to achieve an additional percentage during the course of the Project, in order to assist GDOT in meeting the overall GDOT statewide DBE goal.

The DBE goal for this project is identified in Form I. The Proposer is encouraged to meet this goal throughout the Term of Agreement and will report monthly on the goal attainment status throughout the Term of Agreement. In addition, the Proposer shall demonstrate to GDOT on no less than a quarterly basis that the Project goal is being achieved. If the Project goal has not been achieved at the time of annual reporting, the Proposer shall demonstrate that “good faith efforts” aimed at achievement have been made as described in 49 CFR § 26.53. Further, the Proposer is expected to work toward goal attainment in all areas of the Work, to include pre-construction and design Elements as well as the Construction Work portion of the Project.

Specific DBE Proposal obligations for this Project are set forth in Exhibit C, Section C.1.4. For further information regarding GDOT’s DBE Program and the DB Team’s DBE obligations, Proposers may contact GDOT’s EEO Office during regular business hours at (404) 631-1972.

1.9 Federal Funding and Requirements

Proposers are advised that the Project will require the use of federal funds. Accordingly, applicable federal law and Federal Highway Administration (FHWA) regulations will govern the Project’s procurement and DB Documents.

The required contract provisions for Federal-aid construction contracts included in form FHWA-1273 must be physically incorporated in each of the Proposer’s/ Lead Contractor’s/ DB Team’s construction contracts and subcontracts, and in all lower-tier subcontracts (excluding purchase orders, rental agreements, and other agreements for supplies or services).

1.10 Status of Environmental Documents

GDOT has provided Proposers with anticipated environmental parameters in the form of a draft Environmental Commitments Table provided in the RIDs.

The DB Agreement addresses the possibility that the Environmental Documents Approvals process might diverge from those parameters.

Proposers are advised that the Environmental Documents Approvals process could result in a no-build alternative for the Project. Nothing contained in this RFP or the DB Documents commits GDOT or a Proposer to the construction of the Project or any Project alternative unless
the Environmental Approvals are obtained (and then only to the extent set forth in the Environmental Documents).

1.11 Qualification of Construction and Design Firms

Proposers shall ensure that the entities identified in Sections 1.11.1 and 1.11.2 have satisfied the pre-qualification requirements set forth in this Section 1.11.

In addition, before commencing performance of any Work, all firms must be registered to do business in the State of Georgia. This can be accomplished by contacting the Georgia Secretary of State Corporations Division Office at (404) 656-2817 or visiting http://www.sos.ga.gov/corporations.

1.11.1 Required Pre-Qualification for Contractors

The Lead Contractor shall be pre-qualified with GDOT prior to the Proposal Due Date. If any portion of the Work is not performed by the pre-qualified Lead Contractor, the entity performing the Work shall also be pre-qualified prior to initiating any Work. Any proposed changes to the team must be approved by GDOT.

The pre-qualification process involves, but is not limited to, submitting (a) a completed contractor qualification form and (b) financial statements to GDOT. For further information regarding the pre-qualification process, please see: http://www.dot.ga.gov/PS/Business/Prequalification

1.11.2 Required Pre-Qualification for Engineers

Proposer shall only use entities prequalified in their respective disciplines (engineering, design, traffic analysis, geotechnical, NEPA, construction, etc.) as presented in the SOQ. Any proposed changes to the DB Team must be approved by GDOT. All Work must be performed by entities which are prequalified by GDOT.

If the Proposer's design for the Project includes Design Work outside the scope of the area classes set forth in the RFQ, at least one team member shall be prequalified with GDOT in the appropriate area class.

The prequalification requirement does not apply to any area class that is not implicated by a Proposer's design for the Project. The pre-qualification process involves submitting (a) a pre-qualification form and (b) grid sheet to GDOT. For further information regarding the pre-qualification of engineers, please see: http://www.dot.ga.gov/PS/Business/Prequalification

1.11.3 Pre-Qualification Assistance

Proposers can obtain pre-qualification assistance by calling:

- (404) 631-1147 for contractors
- (404) 631-1148 for engineering consultants or emailing consultants_prequals@dot.ga.gov
1.12 Establishment of Single Purpose Entity(ies)

If the Apparent Successful Proposer contemplates the creation of one or more single purpose entities as the parties that will execute the DB Documents, the Apparent Successful Proposer is required to establish each such single purpose entity and submit executed copies of the articles of incorporation and any other corporate formation documents for the single purpose entity to GDOT in accordance with Section 6.2.1. Proposers anticipating the creation of any such single purpose entity must include pro forma corporate formation documents in the Proposal, as described in Exhibit B. Failure to meet the requirements in this Section 1.12 will result in forfeiture of the Apparent Successful Proposer’s Proposal Bond.
SECTION 2.0 PROCUREMENT PROCESS

2.1 Method of Procurement

GDOT is issuing the RFP in accordance with the provisions of Sections 32-2-81 of the Code, Chapter 672-18 of the Rules, and other applicable laws and guidelines. GDOT intends to award the DB Documents to the Proposer that submits the Best Value Proposal. Subject to Section 8.1, GDOT will base the evaluation of Proposals on information submitted in the Proposals and will involve both pass/fail evaluation factors and an evaluation of administrative, technical, and price criteria, as further detailed in Section 5 and in the Exhibits to this ITP.

2.2 Communications between GDOT and Proposers

GDOT will provide each Proposer the use of a third-party-hosted secure online site called e-Builder (the “e-Builder Site”) for the purpose of receiving certain information pertaining to the Project, including the RFP. Each Proposer is required to treat the address as confidential information and to check the e-Builder Site regularly for Amendments to the RFP and for other procurement-related information.

2.2.1 Designated Point of Contact

The Contracting Officer for the Project is Chip Meeks and can be contacted at:

Georgia Department of Transportation  
Attention: Chip Meeks  
Office of Innovative Delivery  
One Georgia Center  
600 West Peachtree Street, NW  
Atlanta, Georgia 30308  
E-mail: DB-I85Widening@dot.ga.gov

From time to time during the procurement or during the Term of the Agreement, GDOT may designate another point of contact to carry out some or all of the obligations pertaining to the Project.

2.2.2 Rules of Contact

Unless specifically authorized elsewhere in this ITP, the Contracting Officer, as may be changed in writing by GDOT, is the single contact and single source of information for this procurement.

The rules of contact set forth in this Section 2.2.2 shall apply during the Project procurement, commencing with the issuance of this RFP. These rules are designed to promote a fair, unbiased, and legally defensible procurement process. Contact, as used herein, includes face-to-face, telephone, electronic-mail (e-mail), text or any other form of informal and formal written communication.

The specific rules of contact are as follows:

(a) Neither a Proposer nor any of its team members may communicate with another Proposer or members of another Proposer’s team with regard to the RFP or either team’s Proposal. This prohibition does not apply to (1) Proposer communication with a contractor that is on both its team and another Proposer’s team, provided that the
contractor shall not act as a conduit of information between the two Proposers; and (2) public discussion regarding the RFP at GDOT-sponsored informational meetings.

(b) Unless otherwise specifically noted in this ITP or authorized by the Contracting Officer, all Proposer communication with GDOT will be between Proposer's identified representatives and the Contracting Officer. All such communication must be in writing (by mail or e-mail).

(c) Under normal circumstances, the Contracting Officer will contact a Proposer in writing through Proposer's designated representative.

(d) Continuing until the earliest of (1) execution and delivery of the DB Documents, (2) GDOT's rejection of all Proposals or (3) cancellation of the Project procurement, neither a Proposer nor its agents may have ex parte communications with GDOT employees, members of the Technical Review Committee, the Bid Review Committee, the State Transportation Board, any other person who will evaluate Proposals, or any person identified in Section 1.6.4 regarding the Project, except for communications expressly permitted in this ITP or through the process identified above. The foregoing restriction shall not, however, preclude or restrict communications regarding matters unrelated to the Project or from participating in public meetings or any public or Proposer workshop related to the Project. GDOT may, in its sole discretion, disqualify any Proposer engaging in such prohibited communications.

(e) Any contact by a Proposer determined by GDOT to be improper may result in disqualification of that Proposer.

(f) GDOT will not be responsible for or bound by (1) any oral communication, or (2) any other information or contact that occurs outside the official communication process specified herein, unless confirmed in writing by the Contracting Officer.

2.2.3 Language and United States Dollar Requirements

All correspondence regarding the RFP, the Proposal, the DB Documents and all other matters pertaining to this procurement is to be in the English language. If any original documents required for the Proposal are in any other language, the Proposer shall provide a certified English translation, which shall take precedence in the event of conflict with the original language. The Proposer shall exclusively use United States dollars in its Proposal, except in pre-printed or reference materials. Unless otherwise specified, all references to monetary values shall be in United States dollars. In the evaluation of Proposals, GDOT may choose to disregard any financial figures provided by the Proposer in denominations other than United States dollars.

2.3 Questions and Responses Regarding the RFP

Proposers shall be responsible for reviewing the RFP and any Amendments issued by GDOT prior to the Proposal Due Date, and for requesting clarification or interpretation through written questions of any perceived discrepancy, deficiency, ambiguity, error, or omission contained therein; or of any provision which the Proposer fails to understand. Proposers shall submit, and GDOT will respond to written questions in accordance with this Section 2.3. Any responses by GDOT will not be considered part of the DB Documents.
2.3.1 Form of Requests
Proposers shall submit written questions to GDOT via e-Builder using the template provided in the “Questions NonConfidential” folder on the e-Builder site. GDOT will only consider written requests made by Proposers’ designated representatives and will not consider telephone or other oral requests. Proposers are responsible for ensuring that written questions clearly provide the required information in columns B – E in the provided template. Written questions must include the address, telephone, and email address; and the Proposer they represent.

Proposers will be limited to 50 comments or questions (combined) with respect to the RFP. If a question has more than one subpart, each subpart will be considered a separate question. Corrections of typographical errors, incorrect cross references, or inconsistencies within or among the RFP documents will be excluded from the above numerical limitations.

Proposers may submit written comments and questions with respect to the RFP for discussion during the one-on-one meetings. However, GDOT’s response to such comments and questions, if any, will be provided solely as changes to the RFP in the form of Amendment(s).

2.3.2 Timing of Requests
Proposers must submit any requests under this Section 2.3 prior to the deadline for such requests in Section 1.4. GDOT is not required to answer any questions submitted by Proposers after this deadline.

2.3.3 Responses to Questions
GDOT’s responses to questions submitted pursuant to this Section 2.3 will be in writing and GDOT will post responses on the e-Builder Site to all Proposers. GDOT may rephrase or consolidate questions as it deems appropriate.

2.4 Amendments
GDOT reserves the right, in its sole discretion, to revise, modify or change the RFP and/or procurement process at any time before the Proposal Due Date. Any such revisions will be implemented through issuance of Amendments to the RFP. Amendments will be posted on the e-Builder Site, and Proposers will be notified of the issuance of such Amendments. If any Amendment significantly impacts the RFP, as determined in GDOT’s sole discretion, GDOT may change the RFP schedule, including the Proposal Due Date. The announcement of such schedule modification will be included in the Amendment. In addition, the Amendment will indicate the latest date for submittal of any clarification requests concerning the Amendment.

GDOT will not be bound by, and the Proposer shall not rely on, any oral communication or representation regarding the RFP documents, or any written communication except to the extent that it is contained in the RFP or in an Amendment to the RFP and is not superseded by a later Amendment to the RFP.

2.5 One-on-One Meetings
GDOT anticipates conducting one-on-one meetings with each Proposer within the dates specified in Section 1.4 and may hold additional one-on-one meetings as it deems necessary. During a one-on-one meeting, a Proposer may, prior to raising a particular matter, request that GDOT treat such matter as confidential or proprietary (including, for example, matters relating to
a potential Alternative Technical Concept (ATC) or the details of a Proposer’s potential Price Proposal). GDOT will respond to such request during such one-on-one meeting.

2.5.1 Subject Matter of One-on-One Meetings

The purpose of the one-on-one meetings is to discuss issues and clarifications regarding the RFP. The one-on-one meetings are subject to the following rules:

(a) The meetings are intended to provide Proposers with a better understanding of the RFP and its application to their specific Proposal.

(b) GDOT will not discuss with any Proposer any Proposal other than its own.

(c) Proposers shall not seek to obtain commitments from GDOT in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Proposer.

(d) No aspect of these meetings is intended to provide any Proposer with access to information that is not similarly available to other Proposers, and no part of the evaluation of Proposals will be based on the conduct or discussions that occur during these meetings.

(e) GDOT reserves the right to limit the subject matter of one-on-one meetings as it, in its sole discretion, deems appropriate.

(f) GDOT may, in its sole discretion, request each Proposer to submit in writing a proposed agenda prior to any scheduled one-on-one meeting.

(g) Proposers shall not submit, and GDOT will not accept, any meeting minutes or notes of any kind from any prior meetings. Recording of the meetings is not allowed and a Proposer who does so may be subject to sanctions, including being barred from future one-on-one meetings, and the Proposer shall have no recourse.

2.5.2 Meeting Notice, Confirmation and Agreement

GDOT shall notify each Proposer in writing of the scheduled time, place, date and duration of any one-on-one meeting. Proposers shall confirm their attendance and identify all participants attending.

2.5.3 Statements at One-on-One Meetings

Nothing stated at any one-on-one meeting will modify the ITP or the RFP. Any and all changes to the RFP will be made via an Amendment issued pursuant to Section 2.4.

2.5.4 GDOT Use of One-on-One Meeting Information

GDOT reserves the right to disclose to all Proposers any issues raised during the one-on-one meetings, except to the extent that GDOT determines, in its sole discretion, such disclosure would reveal confidential or proprietary information.

2.6 Examination of the Request for Proposals Package and Project Site

GDOT shall permit Proposers to access the Project Site within the Existing ROW to perform limited investigations. Proposers must notify the Contracting Officer who will work with the GDOT Area Office to allow Proposer access to the Project Site. Proposers must follow all
applicable state laws including erosion control and traffic control. Proposers are expected to carefully examine the Project Site and the complete RFP package before submitting a Proposal.

Each Proposer shall, by submission of a Proposal, be deemed to have made such examination and to have satisfied itself as to the conditions to be encountered in performing the Work under the DB Documents.

For geotechnical corings and/or soils samples already collected by GDOT, contact the Contracting Officer to schedule inspection of the samples, if desired. Provide three dates for inspection and specific samples of interest (if known). GDOT will reply with the date available to inspect the samples. If the proposed dates are not available GDOT will request three additional dates.

### 2.7 Changes to Proposer's Organization

Proposers are advised that, in order for a Proposer to remain qualified to submit a Proposal, a Proposer's organization as identified in the SOQ must remain intact for the duration of the procurement process, unless otherwise approved in writing by GDOT. This restriction applies to any changes in the following:

- (a) the Participating Members and Major-Non-Participating Members of Proposer;
- (b) the lead individual from each Participating Member and Major Non-Participating Member;
- (c) any Key Personnel, including:
  1. one person to act as the Lead Contractor Project Manager.
  2. one person to act as the Lead Design Consultant Project Manager.
  3. one person to act as the Engineer of Record, who may also be the Lead Design Consultant Project Manager.
  4. one person to act as the Contractor Superintendent.
  5. one person to act as the Construction Quality Assurance Manager, who shall not be the same person as the Contractor Superintendent.

If a Proposer wishes to change the organization represented in its SOQ by adding, removing, or substituting any of the individuals listed above, by changing the role of one of these individuals, by changing or adding a Participating Member or Major Non-Participating Member to the Proposer team, or by changing the level of participation of one or more Participating Members of its team, the Proposer must submit to the Contracting Officer a written request to change its organization no later than the date specified in Section 1.4. If a request is made to allow an addition to the team, including a new Participating Member or Major Non-Participating Member, the Proposer shall submit with its request the information required by the RFQ for the position the proposed individual will fill. If a request is made to allow deletion of one of the individuals listed above, the Proposer shall submit such information as GDOT may require demonstration that the changed Proposer team is equal to or better than the team shortlisted by GDOT during the RFQ phase of this procurement.

GDOT shall have sole discretion to grant or withhold approval of any requested change and to waive the requirement that Proposer submit such change no later than the date specified in Section 1.4.
SECTION 3.0 ALTERNATIVE TECHNICAL CONCEPT(s) AND PAYMENT FOR WORK PRODUCT

3.1 Overview and Purpose of ATCs

Section 3 sets forth a process for pre-Proposal review of ATCs conflicting with the technical requirements for design and construction of the Project, requiring a modification of the Technical Provisions, Technical Documents, studies of the NEPA Approval, or the Agreement. This process is intended to allow Proposers to incorporate innovation and creativity into their Proposals, in turn allowing GDOT to consider Proposer's ATC(s) in making the selection decision, to avoid delays and potential conflicts in the design associated with deferring of reviews of ATC(s) to the post-award period, and, ultimately, to obtain the best value for the public.

GDOT has sole discretion to allow or reject any ATC submitted. Any ATC that has been pre-approved may be included in the Proposal, subject to the conditions set forth herein.

If a Proposer is unsure as to whether a concept is consistent with the requirements of the RFP requirements or if that concept would be considered an ATC by GDOT, GDOT suggests that the Proposer present such concept as an ATC.

3.1.1 Limitations on ATCs

ATCs eligible for consideration hereunder shall be limited to those Deviations from the requirements of the as-issued DB Documents that result in performance and quality of the end product that is equal to or better than the performance and quality of the Project on an overall basis without the proposed ATC, as determined by GDOT in its sole discretion.

A concept is not an ATC if, in GDOT's sole judgment, it merely results in lower standards, reduced scope, quantities, performance or reliability.

ATCs that, if implemented, would require further environmental evaluation of the Project may be allowed, provided that the DB Team will bear the schedule and cost risk associated with such additional environmental evaluation. If the DB Team is not able to obtain the approvals necessary to implement the ATC, the DB Team will be obligated to develop the Project in accordance with existing approvals without additional cost or extension of time.

3.1.2 Pre-Proposal Submission of ATCs

The Proposer may submit proposed ATCs for review to GDOT using e-Builder, until the date and time identified in Section 1.4. All ATCs shall be submitted in writing as provided herein, with a cover sheet identifying the Proposer and stating “I-85 Widening from North of SR 53 to North of SR 11/US 129 Project – Confidential ATC(s).” The Proposer shall clearly identify the submittal as a request for review of an ATC under this ITP. If the Proposer does not clearly designate its submittal as an ATC, the submission will not be treated as an ATC by GDOT. ATC submittals shall be comprised of one electronic copy in PDF directly uploaded to e-Builder by the Proposer, with a narrative description of the ATC and technical information, including drawings, as described below. Paper copies of drawings or roll plots may be requested by GDOT, at its discretion.

Pre-Proposal submissions for ATCs shall include the following:
(a) **Labeling**: A sequential ATC number identifying the Proposer and the ATC number (multi-part or multi-option ATCs shall be submitted as separate individual ATCs with unique sequential numbers);

(b) **Description**: A description and conceptual drawings of the configuration of the ATC or other appropriate descriptive information, including, if appropriate, product details and a traffic operational analysis;

(c) **Usage**: The location(s) where and an explanation of how the Proposer would use the ATC on the Project;

(d) **Contract Changes**: References to the RFP requirements that are inconsistent with the proposed ATC (including proposed redlined changes), an explanation of the nature of the changes from the requirements and a request for approval of such changes and a completed ATC Checklist (Form P). In doing so, the Proposer shall clearly identify any design exception required to implement the ATC for GDOT's approval;

(e) **Justification**: An analysis justifying the Proposer's use of the ATC and why GDOT should allow the Deviation, if any, from the RFP requirements;

(f) **Impacts**: A preliminary analysis of potential impacts on vehicular traffic (both during and after the Construction Work), environmental impacts (including environmental re-evaluations), construction schedule impacts (including, without limitation, on Milestone Deadlines), community impacts (including additional public involvement), safety, and lifecycle Project and infrastructure costs, including impacts on the cost of repair, maintenance and operation;

(g) **Cost Savings**: An estimate and detailed breakdown of any savings that would accrue to GDOT as a result of the ATC;

(h) **Time Savings**: An estimate of any reduction in the time period necessary to design and construct the Project resulting from implementing the ATC, including a description of the methods the Proposer would use, as well as a schedule graphically showing how the ATC will reduce this time period;

(i) **Risks**: A description of added risks to GDOT or third parties associated with implementation of the ATC (including, without limitation, with respect to post-construction, operation, maintenance, and tolling, if applicable, of the Project);

(j) **Quality**: A description of how the ATC is equal to or better in quality and performance than the RFP requirements;

(k) **Costs**: An estimate of the ATC implementation costs to GDOT, the DB Team and third parties;

(l) **Operations**: Any changes in operation requirements associated with the ATC (including, without limitation, with respect to (i) ease of operation and (ii) post-construction tolling of the Project, if applicable);
(m) **Maintenance:** Any changes in the anticipated maintenance requirements (during and post-construction) associated with the ATC, including ease of maintenance;

(n) **Anticipated Life:** Any changes in the anticipated life of the item comprising the ATC;

(o) **Right-of-Way:** Confirmation that no additional right-of-way is required to implement the ATC;

(p) **Past Use:** A description of other projects where the ATC has been used (if any), the success of such usage, and names and contact information, including phone numbers and email addresses, for project owner representatives that can confirm such statements; and

(q) **Sale of Work Product:** A statement of whether or not the Proposer is prepared to sell its ATC(s) as part of the Work Product to GDOT in accordance with the terms of Section 3.8 hereof (in the event that such the Proposer is not selected as the Apparent Successful Proposer).

### 3.2 GDOT Review of Pre-Proposal Submission of ATCs

#### 3.2.1 General

GDOT may request additional information regarding proposed ATCs at any time and will, in each case, endeavor to respond to each Proposer regarding its ATCs within 14 days of receipt of the final submission pursuant to Section 3.1.2, provided that GDOT has received all requested information regarding such ATC.

GDOT's responses will be limited to one of the following statements:

(a) the ATC, as submitted, is acceptable for inclusion in the Proposal;

(b) the ATC is not acceptable for inclusion in the Proposal;

(c) the ATC is not acceptable in its present form, but may be acceptable upon the satisfaction, in GDOT's sole discretion, of certain identified conditions which must be met or clarifications or modifications that must be made, including, but not limited to, any required environmental reevaluation related to the ATC, which GDOT may condition upon a GDOT Re-evaluation Period;

(d) the submittal does not qualify as an ATC but may be included in the Proposer's Proposal because it appears to be within the requirements of the RFP; or

(e) the submittal does not qualify as an ATC and may not be included in the Proposal.

GDOT will make a determination on whether to approve an ATC for inclusion in the Project. GDOT's determination regarding any Proposer's ATC is conclusive as to the acceptability of an ATC for inclusion in the Proposal.

Proposers shall ensure that the final Proposal complies with the requirements of the RFP. Final approval of an ATC will constitute a change in the specific requirements of the DB Documents associated with the approved ATC for that specific Proposer. **Each Proposer, by submission of its Proposal, acknowledges that the opportunity to submit ATCs was offered to all**
Proposers, and waives any right to object to GDOT's determinations regarding acceptability of ATCs for its Proposal or the acceptability of any other ATCs submitted by any other Proposer.

GDOT's rejection of a pre-Proposal submission of an ATC under this Section 3.2.1 will not entitle the Proposer to an extension of the Proposal Due Date or the date that the ATCs are due; provided, however, that the foregoing shall not limit GDOT's sole right to modify the Proposal Due Date or any other date in connection with this procurement.

GDOT anticipates that its comments provided to a Proposer will be sufficient to enable the Proposer to make any necessary changes to its ATCs. However, if a Proposer wishes additional clarifications regarding necessary changes, the Proposer may provide a written request for clarifications under Section 2.3.

### 3.2.2 ATC Proposal Package Process

Included with the Proposer’s Technical Proposal, the Proposer will submit to GDOT a list of all approved ATCs that the Proposer has included in its Proposal (“ATC Proposal Package”); utilize Form Q to list all GDOT approved ATCs and identify those GDOT approved ATCs that are included in Proposer’s Technical Proposal. The Proposer will not be allowed to include any ATC that has not been pre-approved by GDOT.

ATCs must be shown on, and in relationship to, the Schematic Plans required by Exhibit C, Section C.2.

### 3.3 Incorporation of ATCs into the Agreement

Following selection of the Apparent Successful Proposer, the ATC Proposal Package that was incorporated in the Proposal by the Apparent Successful Proposer shall be incorporated into the DB Documents. If GDOT has pre-approved any ATC by responding that the ATC was acceptable subject to certain conditions being met, including a condition of a GDOT Re-evaluation Period, those conditions will become part of the DB Documents. The DB Documents will be conformed after identification of the Apparent Successful Proposer, but prior to execution of the Agreement, to reflect the ATCs contained in the ATC Proposal Package, including any GDOT conditions thereto.

Notwithstanding anything to the contrary herein, if the Apparent Successful Proposer does not comply with one or more GDOT conditions of pre-approval of an ATC in the ATC Proposal Package, including obtaining any necessary third-party approvals, the Apparent Successful Proposer shall comply with the original requirements of the RFP without additional cost or extension of time as set forth in the Agreement.

If an unsuccessful Proposer has indicated that it is prepared to sell an irrevocable license with respect to its ATCs to GDOT in accordance with the terms of Section 3.8 hereof, it is GDOT’s intention to acquire such ATCs promptly after GDOT’s selection of the Apparent Successful Proposer. Following such acquisition, such ATCs may, in GDOT’s sole discretion, be presented to the Apparent Successful Proposer for possible inclusion in the Project as a Supplemental Agreement or as negotiated prior to award and execution of the Agreement in accordance with Section 6.2. The Supplemental Agreement will document (i) any change in the Contract Sum relating to the ATC Costs (informed by a comparison of the Successful Proposer’s cost estimate, the unsuccessful Proposer’s cost estimate, and GDOT’s Cost Estimate) and (ii) any schedule adjustments including, without limitation, to the Project Schedule and/or Milestone.
Deadlines, as applicable (informed by the related estimated schedule impact as developed by the Apparent Successful Proposer and validated by GDOT).

3.4 Disclosure of ATC Information

The Proposer shall not make any public announcement or disclosure to third parties concerning any ATC until after pre-approval (including conditional pre-approval) has been obtained. Following pre-approval (including conditional pre-approval), if a Proposer wishes to make any such announcement or disclosure, it must first notify GDOT in writing of its intent to take such action, including details as to date and participants, and obtain GDOT's prior written consent, in GDOT's sole discretion, to do so.

3.5 Third Party Approvals

If implementation of an ATC will require approval by a third party (e.g., a governmental authority), other than Governmental Approvals required for a reevaluation of the environmental document, the Proposer will have full responsibility for, and bear the full risk of, obtaining any such approvals after award of the DB Documents and submission of data. If any required third-party approval is not subsequently granted with the result that the Proposer must comply with the requirements of the original RFP, the Proposer will not be entitled to any additional time or money.

3.6 GDOT's Right to Modify

If GDOT determines, based on a proposed ATC or otherwise, that the RFP contains an error, ambiguity or mistake, GDOT reserves the right to modify the RFP through an Amendment to correct the error, ambiguity or mistake, regardless of any impact on a proposed ATC.

3.7 Confidentiality of ATC Information

Pursuant to Section 4.3 and subject to Section 2.3.3 and Section 3.4, all information discussed and all materials submitted will be considered confidential by GDOT until the procurement phase of the Project has been completed, subject to Section 3.8 below.

3.8 Purchase and Use of Work Product by GDOT

3.8.1 Purchase of Work Product

GDOT may, in accordance with this Section 3.8, make certain payments to Proposers in consideration for the transfer and assignment to GDOT of proprietary information, trade secrets, techniques, concepts, analyses, approaches, ideas or other Intellectual Property or work product furnished by Proposers to GDOT during the procurement hereunder (including, without limitation, ATCs) (collectively, “Work Product”).

GDOT may make payments to unsuccessful responsive Proposers for an irrevocable license with respect to their Work Product as follows:

GDOT may, after its selection of the Apparent Successful Proposer in accordance with Section 5; offer and, if its offer is accepted, make a payment to each unsuccessful Proposer to acquire such rights with respect to such Work Product as of such date. Non-responsive Proposers will not be paid the Stipulated Fee amount as identified in Form N.
3.8.2 Payment Amount, Timing and Work Product Assignments and Assumption

Payments for purchase of Work Product will be according to the following:

(a) The purchase price to be paid by GDOT to a responsive Proposer under this Section 3.8 will be the Stipulated Fee amount as identified in Form N.

(b) If the Proposer is prepared to sell rights with respect to its Work Product to GDOT in accordance with the terms of Section 3.8.1 (in the event that such Proposer is not selected as the Apparent Successful Proposer), the Proposer shall deliver to GDOT a duly completed and executed Grant and Assumption of Non-Exclusive Irrevocable License (in the form of Form N) reflecting the Stipulated Fee amount with the Administrative Information Submittals of their proposal.

(c) Payments under this Section 3.8 will be made by GDOT to each eligible Proposer as follows:

1. in the case of any Work Product rights being acquired under Section 3.8.1, prior to or promptly after GDOT's selection of the Apparent Successful Proposer (in accordance with Section 5), provided that the Proposer has complied with Section 3.8.2 (b); and

2. in any other case no later than the forty-fifth (45th) day after the Proposer and GDOT have each executed a completed Grant and Assumption of Non-Exclusive Irrevocable License (in the form of Form N) reflecting the Stipulated Fee.

(d) In the event that any Proposer that has received payment with respect to rights in its Work Product pursuant to Section 3.8.1 is subsequently awarded the DB Document under Section 6.2.2, such Proposer shall, no later than the date of its execution of the DB Documents, reimburse GDOT in full for the purchase price paid by GDOT pursuant to Section 3.8.2 (c).

3.8.3 Use of Work Product

GDOT shall, at all times following the making of any Payment for Work Product rights (including any ATCs rights) under this Section 3.8, have the irrevocable right to use (or permit others to so use on its behalf) such Work Product (including, without limitation, in connection with any Agreement awarded for the Project, any subsequent procurement with respect to the Project or any other GDOT project), with no obligation to pay additional compensation to the relevant Proposer in connection with such Work Product. Such use may, at GDOT's sole and exclusive discretion, include the disclosure of such Work Product (including ATCs) to the Apparent Successful Proposer.

3.8.4 Foregoing of Payment by Proposer

Each Proposer has the option to forego Payment with respect to rights in its Work Product under this Section 3.8 and to retain all rights with respect to the relevant Work Product. In such an event, GDOT will have no right to use such Work Product.
3.8.5 Work Product Minimum Requirements

If a Proposer elects to be eligible for the Payment for Work Product, the Proposer must submit a portable flash drive containing all design files, concepts, ideas, technology, techniques, methods, processes, drawings, reports, plans and specifications used in the development of the Price Proposal and Technical Proposal in accordance with Section 6.2.1.
SECTION 4.0 PROPOSAL CONTENT AND SUBMITTAL REQUIREMENTS

4.1 Format
To facilitate the evaluation of Administrative Information Submittals, Technical Proposals, and Price Proposals and to help protect the confidentiality of proprietary information, the Proposal submittal described in Section 4.2 shall be submitted in three separate electronic packages to the e-Builder site as described in Section 2.2.

Unless otherwise specified in this ITP, all written submittals must be prepared on 8-1/2" x 11" white paper. All written submittals, regardless of paper size, must be prepared on white paper. Each section within each volume shall have sequentially numbered pages, shall be separated by a dividing sheet, and shall be prepared using no smaller than 11-point font size, except for tables, which may be prepared using no smaller than 10-point font size. Some of the required documents have specified page limitations, as set forth in Exhibit B, Exhibit C and Exhibit D. GDOT may disregard documents not complying with these page limitations. Documents may be single-spaced. Proposers shall not include standard corporate brochures, awards, licenses and marketing materials and GDOT will not evaluate such materials.

4.2 Contents and Organization
Proposers shall clearly index their Administrative Information Submittals, Technical Proposal, and Price Proposal (subject to the limitations on dividing sheets as identified in Exhibits B, C, and/or D) and organize them in the order set forth in this Section 4.2. The proposal submittal shall contain separate Administrative Information Submittals, Technical Proposal, and Price Proposal, including the information described in this section. Proposers may subdivide each Administrative, Technical, and Price Proposal further as needed. The electronic submittals shall use a searchable format with appropriate bookmarks.

If the Proposer has any items that it deems confidential, trade secret or proprietary information, the first page of the Administrative Information Submittals must be a page executed by the Proposer that sets forth the specific items the Proposer deems confidential, trade secret or proprietary information protected from public disclosure under the Open Government Laws. The Proposer shall list the specific statute within the Open Government Laws that the Proposer has reasonably determined is exempt from disclosure under Section 50-18-72 of the Code or any other applicable law.

In this case and in accordance with Section 50-18-72 (a) (34) of the Code, the Proposer shall submit and attach to the records an affidavit affirmatively declaring that specific information in the records constitute trade secrets pursuant to Article 27 of Chapter 1 of Title 10. If such Proposer attaches such an affidavit, before producing such records in response to a request under this article, the agency shall notify the Proposer of its intention to produce such records as set forth in this paragraph. If GDOT makes a determination that the specifically identified information does not in fact constitute a trade secret, it shall notify the Proposer submitting the affidavit of its intent to disclose the information within 10 days unless prohibited from doing so by an appropriate court order. In the event the Proposer wishes to prevent disclosure of the requested records, the Proposer may file an action in superior court to obtain an order that the requested records are trade secrets exempt from disclosure. The Proposer filing such action shall serve the requestor with a copy of its court filing. If GDOT makes a determination that the specifically identified information does constitute a trade secret, GDOT shall withhold the
records, and the requester may file an action in superior court to obtain an order that the requested records are not trade secrets and are subject to disclosure.

The list required under this Section 4.2 and in Exhibit B is intended to provide input to GDOT as to the confidential nature of a Proposer's Proposal, but in no event shall such list be binding on GDOT or determinative of any issue relating to confidentiality. Blanket designations that do not identify the specific information or the applicable statute(s) shall not be acceptable and may be cause for GDOT to treat the entire Proposal as public information. In no event shall the State, GDOT or any of their respective agents, representatives, consultants, directors, officers or employees be liable to a Proposer or Proposer team member for the disclosure of all or a portion of a Proposal submitted under this RFP. Additionally, the Proposer shall add a “confidential” watermark to each page that it deems confidential under this paragraph.

If GDOT receives a request for public disclosure of all or any portion of the materials identified as confidential and included in any part of a Proposal, GDOT will promptly notify the applicable Proposer of the request. The Proposer may seek a protective order or other appropriate remedy at such Proposer’s sole cost and expense. If GDOT determines in good faith that the materials identified as “confidential” are not exempt from the Open Government Laws, GDOT will release the requested information. GDOT shall make the final determination regarding whether the requested information is to be disclosed or withheld.

Nothing contained in this provision shall modify or amend requirements and obligations imposed on GDOT by the Open Government Laws or other applicable law, and the provisions of the Open Government Laws or other laws shall control in the event of a conflict between the procedures described above and the applicable law.

Please see Exhibit B, Exhibit C, and Exhibit D for special instructions regarding submission of information relating to the Price Proposal.

4.2.1 Administrative Information Submittals

The Administrative Information Submittals shall contain the components described in Exhibit B, separated and labeled appropriately and organized; and included in a separate package.

4.2.2 Technical Proposal

The Technical Proposal shall contain the components described in Exhibit C, separated and labeled appropriately and organized; and included in a separate package.

The Technical Proposal shall be consistent with the requirements in the DB Documents. In drafting the Technical Proposal, Proposers shall use the versions of any manuals, guidelines or specifications, including but not limited to those identified in the Technical Provisions, that are in effect at the date of the RFP advertisement, unless expressly provided otherwise.

4.2.3 Price Proposal

The Price Proposal shall contain the components described in Exhibit D, separated, sealed and labeled appropriately and organized; and included in a separate package.

Any financial statements or updates to financial statements, as required for Proposers acting as a Joint Venture or Partnership, shall be submitted electronically to the extent possible, including links to SEC filings. If hardcopies are submitted, they must be provided in a tabulated binder.

If a Proposer is not a Joint Venture or Single Purpose Entity, the Price Proposal should only consist of an electronic submittal containing the required components described in Exhibit D.
4.2.4 Submission of Proposals

Proposers shall submit three separate packages to GDOT and containing contents described below:

(a) Administrative Information Submittals – Package 1
   a. One electronic copy of the Administrative Information Submittals.

   Submit the Administrative Information Submittals Package to the e-Builder site in the following folder location: Documents \ 20 [Proposer] \ E Administrative Proposal.

(b) Technical Proposal – Package 2
   a. One electronic copy of the Technical Proposal.
   b. One electronic copy of the Proposal Schedule in “PDF” as described in Exhibit C.

   Submit the Technical Proposal Package to the e-Builder site in the following folder location: Documents \ 20 [Proposer] \ F Technical Proposal.

(c) Price Proposal – Package 3
   a. One electronic copy of the Price Proposal (Financial Information Only) in both “PDF” and original/native file format(s) including the associated electronic files used to develop the proposal.

   Submit the Price Proposal Package to the e-Builder site in the following folder location: Documents \ 20 [Proposer] \ G Price Proposal. The Price Proposal package will remain locked down and unopened by the Department until the Letting date specified in Section 1.4. A document showing the access history of the Price Proposal package prior to Letting will be added to the Procurement records.

Proposers shall submit and individually name all components making up its Proposal as follows:


Proposal Type = Administrative Information Submittals; Technical Proposal, or Price Proposal as appropriate

Proposals shall be uploaded to the relevant folder location on the e-Builder site no later than the Proposal Due Date (as specified in Section 1.4).

Acknowledgment of receipt of Proposals will be evidenced by the issuance of a receipt by the Contracting Officer via email. GDOT will not accept Proposals submitted via facsimile or e-mail. When the Proposal has been uploaded to the e-Builder site, notify the Contracting Officer via email.

GDOT will not accept any Proposals submitted after the Proposal Due Date and time as specified in Section 1.4. Any Proposals received after the specified time on the Proposal Due Date will be rejected and not considered. Proposers are solely responsible for assuring that GDOT receives their Proposals by the specified time on the Proposal Due Date. GDOT shall
not be responsible for delays in delivery caused by weather, technical difficulties and other occurrences beyond the control of GDOT.

4.3 Disclosure of Proposals

No Proposal shall be made public until the procurement phase of the Project, including any evaluation, one-on-one meetings, negotiations, award and execution of the DB Documents has been completed.

It is GDOT’s intent to post to the GDOT Design-Build webpage all Technical Proposals, upon the execution of the DB Documents and issuance of Notice to Proceed (NTP) 1.

4.4 Validity of Proposals

Proposals submitted and not withdrawn as of the Proposal Due Date shall be valid for a period of 120 days commencing on the Proposal Due Date. No Proposer shall withdraw its Proposal within the 120 day period, unless notified by GDOT that (i) the DB Documents for the Project will not be awarded by GDOT pursuant to the RFP or (ii) GDOT has awarded the DB Documents to another Proposer, has received the executed DB Documents and other required documents, and does not intend to award the DB Documents to the Proposer that is requesting the withdrawal of the submitted Proposal.

Any Proposer may elect, in its sole discretion, to extend the validity of its Proposal beyond the time periods set forth above.

4.5 Proposal Bond

Each Proposer shall submit a Proposal Bond, as described in Exhibit D and in the form provided in Form D.

4.6 Forfeiture of Proposal Bond

Each Proposer understands and agrees that if it has submitted and not withdrawn its Proposal as of the Proposal Due Date and (i) withdraws any part or all of its Proposal (without the written consent of GDOT) while the Proposal is valid or (ii) if it is selected as the Apparent Successful Proposer pursuant to Section 6.2 or Section 6.2.2 should refuse or be unable to furnish any commitments made in its Proposal, GDOT shall be entitled to draw on the Proposal Bond in its entirety and the Proposer shall not be entitled to the Payment for Work Product.

The Proposer acknowledges that the forfeiture of the Proposal Bond constitutes liquidated damages and is not a penalty, and the amount forfeited is fair and reasonable. Such payment represents a reasonable estimate of fair compensation to GDOT for the work required to re-procure the Project and the reputational losses which may accrue.

Subject to Section 6.2.1, GDOT will retain the Proposal Bond for all Proposers until the DB Documents have been fully executed, GDOT has canceled the RFP, or the conclusion of the validity period described in Section 4.4; after which GDOT will return the Proposal Bond for each unsuccessful Proposer, except any Proposal Bond drawn upon by GDOT. Further, GDOT shall return the Proposal Bond to the Apparent Successful Proposer within two Business Days of GDOT’s receipt of the Payment and Performance (P&P) Bonds, in accordance with Section 5.6.

The Proposer understands that any material alteration, as determined by GDOT in its sole discretion, of documents specified in this Section 4 including the Form of Proposal Bond (Form
D), will render the Proposal non-responsive and non-compliant, unless such alteration was authorized by GDOT in writing prior to the Proposal Due Date.

### 4.7 Cost of Preparing Proposal

Subject to Section 3.8 and the terms of the Work Product Assignments and Assumption set forth in Form N, the cost of preparing the Proposal and any costs incurred at any time before or during the Proposal process shall be borne by the Proposer.

### 4.8 Non-Compliant Proposal

The Proposer shall submit a Proposal that provides all the information required by the ITP. If the Proposal does not fully comply with these requirements, GDOT may deem the Proposal non-responsive in which case the Proposer shall be disqualified and the Stipulated Fee amount as identified in Form N will not be paid. In addition, GDOT may consider Proposals non-responsive and the Proposer disqualified for the following reasons:

(a) If the Proposal is not submitted in the format specified in this ITP, is illegible or is incomplete;

(b) If the Proposal contains multiple, conditional or alternate Proposals (except as contained in pre-approved ATCs and including conditionally pre-approved ATCs that have been revised to satisfy any conditions to approval) or contains any omission, erasures, alterations, unauthorized additions or other irregularities of any kind; or

(c) If the Proposer is in arrears in the payment of any obligation due and owing the State, including the payment of taxes and employee benefits.

### 4.9 Insurance Requirements

Proposers are cautioned to carefully review the minimum insurance requirements set forth in the DB Documents and to take these minimum requirements into account in putting together their Technical Proposal and Price Proposal.
SECTION 5.0 EVALUATION PROCESS AND CRITERIA

Upon GDOT's receipt of the Proposals, GDOT will proceed to review the Proposals using the pass/fail factors set forth in Section 5.1 and to evaluate the Proposals pursuant to the evaluation criteria and processes established in Exhibit E. As set forth in Section 5.4, the evaluation process may, at GDOT's sole discretion, include a request for revised Proposals. GDOT will determine which Proposal is the Apparent Successful Proposer in accordance with the selection process set forth in this Section 5.

GDOT may, in its sole discretion, reject all Proposals or advertise for new Proposals, if, in the judgment of GDOT, the best interests of the public will be promoted by doing so.

5.1 Pass/Fail and Responsiveness Evaluation

Each Proposal will be reviewed for responsiveness based on the pass/fail criteria set forth in this Section 5.1. Each Proposer must satisfy each pass/fail requirement set forth in Sections 5.1.2 through 5.1.4 and be deemed to have submitted a responsive Proposal pursuant to Section 5.1.1 in order for GDOT to evaluate it qualitatively under Section 5.2. Proposers are advised that failure to achieve a “pass” rating on any “pass/fail” factor will result in GDOT declaring the Proposal non-responsive and the Proposer being disqualified. Prior to making such determination, GDOT may, in its sole discretion, request clarifications of the information submitted in the Proposal (see Section 5.3).

5.1.1 Responsiveness

Proposers that GDOT determines are non-responsive as set forth in Section 5.1 may be excluded from further consideration and the Stipulated Fee amount as identified in Form N will not be paid. Proposers will be advised regarding a determination of non-responsiveness.

5.1.2 Administrative Information Submittals Pass/Fail Requirements

The Administrative Information Submittals will be reviewed on a pass/fail basis to determine if it meets the requirements of Exhibit B.

5.1.3 Technical Proposal Pass/Fail Requirements

The Technical Proposal will be reviewed on a pass/fail basis to determine if it meets the requirements of Exhibit C.

5.1.4 Price Proposal Pass/Fail Requirements

The Price Proposal will be reviewed on a pass/fail basis to determine if it meets the requirements of Exhibit D.

5.2 Proposal Evaluation Criteria and Weighting

GDOT will evaluate and score each responsive Proposal meeting all of the “pass/fail” qualification requirements in Section 5.1 according to the criteria set forth in Exhibit E. Once GDOT has scored the Proposals in accordance with Section 5.2.1, GDOT will determine which Proposal is the Apparent Successful Proposer in accordance with Section 5.2.2. The maximum score for a Proposal will be 1000 points, which will be allocated as described in Exhibit E.
5.2.1 Breakdown between Technical and Financial Evaluations

(a) Technical Proposal Evaluation Process / Guidelines

Unless otherwise specified in Exhibit E, GDOT will score each Proposal based on the evaluation criteria set forth in Exhibit E using an adjectival (qualitative/descriptive) ratings method, as follows:

<table>
<thead>
<tr>
<th>Adjective Rating</th>
<th>Percentage of Points Awarded</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>91% - 100%</td>
<td>The Proposal exceeds in a significant manner stated requirements in a beneficial way, providing advantages, benefits or added value to the Project, and provides an exceptional level of quality.</td>
</tr>
<tr>
<td>Very Good</td>
<td>81% - 90%</td>
<td>The Proposal exceeds the stated requirements in a beneficial way, providing advantages, benefits or added value to the Project, and offers a significantly better than acceptable level of quality.</td>
</tr>
<tr>
<td>Good</td>
<td>71% - 80%</td>
<td>The Proposal comfortably meets the stated requirements, provides some advantages, benefits or added value to the Project and offers a generally better than acceptable level of quality.</td>
</tr>
<tr>
<td>Fair</td>
<td>51% - 70%</td>
<td>The Proposal demonstrates an approach which marginally meets stated requirements and meets a minimum level of quality.</td>
</tr>
<tr>
<td>Poor</td>
<td>0% - 50%</td>
<td>The Proposal demonstrates an approach which contains significant weaknesses/deficiencies and that is of an unacceptable level of quality.</td>
</tr>
</tbody>
</table>

In addition to the adjectival (qualitative/descriptive) ratings set forth above, GDOT may apply a “+” rating. GDOT will evaluate and may assign adjectival “+” rating to the Technical Proposal evaluation criteria listed in Exhibit E, which will be converted to numerical scores based on the percentage ranges as defined in the table above. The sum of the Evaluation Score from Exhibit E, Section E.1 will make up the Technical Proposal Score.

(b) Price Proposal Evaluation Process / Guidelines

Each Proposer's Price Proposal Score will be calculated pursuant to Exhibit E, Section E.2.

5.2.2 Best Value Determination

The determination of apparent best value shall be based on a 1000-point scale and will be computed using the formula provided in Exhibit E, Section E.3.

5.3 Requests for Clarification

GDOT may at any time issue one or more requests for clarification to the individual Proposers, requesting additional information or clarification from a Proposer, or may request a Proposer to
verify or certify certain aspects of its Proposal. Any requests for clarification shall be in writing to the Proposer's designated representative and posted to the e-Build site in the following folder location: Documents \ 20 [Proposer] \ H Request for Clarification. Proposers shall respond to any such requests within two Business Days (or such other time as is specified by GDOT) from receipt of the request. The scope, length and topics to be addressed in clarifications shall be prescribed by, and subject to the discretion of GDOT. Any responses to GDOT shall be uploaded to the e-Build site to the above folder location.

Upon receipt of requested clarifications and additional information as described above, if any, the Proposals may be re-evaluated to factor in the clarifications and additional information.

5.4 Request for Proposal Revisions

GDOT may, at any time after receipt of Proposals and prior to final award, determine that it is appropriate to request changes to the Proposals ("Proposal Revisions"). If Proposal Revisions are requested, GDOT will follow the requirements described in 23 CFR Part 636. GDOT may request Proposal Revisions with or without discussions as described therein. The request for Proposal Revisions will identify any revisions to the RFP and will specify terms and conditions applicable to the Proposal Revisions, including identifying a time and date for upload to the e-Build site. In the event that Proposal Revisions are requested, the term “Proposal,” as used in the RFP, shall mean the original Proposal, as modified by the Proposal Revisions.

5.5 Proposal Re-evaluation following Revisions

Upon receipt of Proposal Revisions pursuant to Section 5.4 above, GDOT will re-evaluate the Proposals as revised in accordance with the methodology described in Section 5.2.

5.6 Payment and Performance (P&P) Bonding Requirements

The Apparent Successful Proposer shall deliver to GDOT P&P Bonds in compliance with GDOT Special Provision 103.05 and Form O; and within the timeframe specified in Section 6.2.1.
SECTION 6.0 AGREEMENT AWARD AND EXECUTION

6.1 No Obligation to Award
GDOT shall be under no obligation to award the Project to any Proposer or to award the Project.

6.2 Award and Execution
Unless GDOT rejects all Proposals or cancels this procurement, GDOT shall select as the Apparent Successful Proposer the Proposer with the Apparent Successful Proposal, taking into consideration the evaluation criteria and procedures set forth in Section 5 and Exhibit E. GDOT’s selection of Apparent Successful Proposer with respect to the Project shall be deemed to have occurred upon public notification of such selection.

Following such selection of Apparent Successful Proposer, GDOT and the Apparent Successful Proposer shall finalize the executable versions of the DB Documents, including incorporating pre-approved ATCs, as appropriate, filling in blanks and inserting information that the forms of the DB Documents indicate is required from the Proposal. As part of the finalization process and pursuant to Section 3.8, GDOT may, in its sole discretion, elect to engage with the Apparent Successful Proposer regarding the incorporation of the unsuccessful Proposers' Work Product (including pre-approved ATCs). By submitting its Proposal, each Proposer commits to enter into the form of DB Documents included in the RFP, without variation, except as provided in this paragraph.

6.2.1 Delivery of Drafts, Execution of DB Documents
(a) Within three Business Days following Letting, all Proposers including the Apparent Successful Proposer shall provide a portable flash drive or hard copy (as noted) of the following:
   i. Work Product Assignment and Assumption – Form N in accordance with Section 3.8 (portable flash drive)
   ii. the Construction Contractors Bid Opportunity List – Form E in accordance with the ITP Exhibit B, Section B.2.1.5 (hard copy).
   iii. Financial Statements and Financial Capacity Information, if applicable, in accordance with the ITP Exhibit D, Section D.2 (hard copy).
   iv. the Proposal Bond – Form D in accordance with ITP Exhibit D, Section D.3.3 (hard copy).
(b) Within 10 days following the posting of the Notice of Award on the Georgia Procurement Registry, the Apparent Successful Proposer shall provide the following:
   i. Escrow Bid Documentation to GDOT’s authorized representative in a container suitable for sealing in accordance with Volume 1, Exhibit 24;
   ii. Specimens of the Insurance Policies required under the Agreement for GDOT’s review and approval;
   iii. Notification to GDOT in writing of the:
a. name and e-mail address of the officer of the company who will sign the contract;

b. company E-Verify number;

c. name of Proposer’s surety company (if more than one surety, submit all names and identify which is the controlling surety); and

d. name, e-mail address and telephone number of Proposer’s Bonding Agent who will execute as Attorney In Fact on behalf of the surety company.

iv. If the Apparent Successful Proposer is a Joint Venture, Partnership, or single purpose entity; notify GDOT in writing of the name and address of the attorney that will provide the legal opinions set forth on Form S. Such opinion letter may be rendered by in-house or outside counsel, provided that (i) the organization/authorization/execution opinion shall be provided by an attorney licensed in the state of the formation/organization of the entity for which the opinion is rendered (i.e., DB Team, joint venture member, etc.), (ii) the qualification to do business in Georgia and the enforceability opinion shall be provided by an attorney licensed in the state of Georgia, provided, however, that the organization, authorization, or execution opinion for an entity formed or organized under the laws of the state of Delaware may be issued by an in-house or outside counsel duly licensed elsewhere; and

v. if the Apparent Successful Proposer is a Joint Venture, Partnership, or single purpose entity; provide draft legal opinions (consistent with Form S) to GDOT for GDOT’s review and approval, not to be unreasonably withheld.

(c) Within 45 days following the posting of the Notice of Award on the Georgia Procurement Registry, such Apparent Successful Proposer shall provide the following:

i. Notification to GDOT in writing of the Proposer’s Federal Internal Revenue Service Employer Identification Number.

ii. Notification to GDOT in writing of the name and address of its Georgia registered agent for service of legal process. The Proposer shall not change this authorized agent without prior written notice to GDOT.

iii. Evidence of insurance required to be provided by the DB Team under the DB Documents.

iv. If the Apparent Successful Proposer is a Joint Venture, Partnership, or single purpose entity; then deliver concurrently with the DB Team’s execution of the DB Documents the final opinion letter. Prior to GDOT’s execution of the DB Documents, the DB Team will provide to GDOT the legal opinion in the form, and from the counsel, previously approved by GDOT.

v. If applicable, complete the establishment of the single purpose entity for the Project and submit certified copies of the single purpose entity-related documents to GDOT as described in Section 1.12.
Should the Apparent Successful Proposer fail to comply with any of the requirements in this Section 6.2.1, GDOT may, in its sole discretion, call upon the Apparent Successful Proposer Proposal Bond in its entirety, provided that Proposer's time period to satisfy the requirements of this Section 6.2.1 shall be extended by the period of delay in the Proposer's ability to execute the Agreement solely and directly caused by the issuance of a temporary restraining order or other form of injunction by a court with jurisdiction that prohibits prosecution of any portion of the Project.

The Proposer acknowledges that the forfeiture of the Proposal Bond constitutes liquidated damages and is not a penalty, and the amount forfeited is fair and reasonable and such payment represents a reasonable estimate of fair compensation to GDOT for the work required to procure the Project and the reputational losses which may accrue.

If any hard copies will be delivered to GDOT via overnight express service (e.g., FedEx, UPS, etc.), Proposer must notify the Contracting Officer with tracking information at the Project email listed in Section 2.2.1 the day the submittal is sent.

It is contemplated that GDOT will execute the DB Documents no later than 90 days after selection of the Apparent Successful Proposer, subject to such Apparent Successful Proposer's compliance with the terms of this Section 6.2.1.

GDOT will route the DB Documents including the P&P Bonds to the Apparent Successful Proposer for execution via DocuSign®. The Apparent Successful Proposer shall provide GDOT the Surety’s Power of Attorney upon executing the DB Documents in DocuSign® with a hard copy to follow within five Business Days.

6.2.2 Initial Successful Proposer’s Failure to Comply

If the initial Apparent Successful Proposer fails to comply with the requirements of Section 6.2.1, GDOT may (in its sole discretion) award the DB Documents to the Proposer whose Proposal was the next highest rated; cancel the procurement, re-advertise and complete the work under a different contract; cancel the Project; or pursue any other option it chooses.

6.3 Reserved

6.4 Debriefing of Unsuccessful Proposers

GDOT shall debrief unsuccessful Proposers upon their written request that must be submitted to the Contracting Officer within 30 calendar days of GDOT’s posting of the Notice of Award to the Georgia Procurement Registry. Email requests are considered acceptable.

GDOT will prepare a summary of the requesting Proposer’s relevant evaluation information and GDOT will provide the information in writing to the requesting Proposer within 30 calendar days after GDOT’s issuance of the Project’s NTP 1.

After receipt of the written debriefing information, an unsuccessful Proposer may request a debriefing meeting in accordance with GDOT’s Design-Build Manual.

6.5 Bid Protest Procedures

Each DB Team, by submitting its Proposal, expressly recognizes the limitation on its rights to protest contained herein, expressly waives all other rights and remedies, and agrees that the decision on any protest, as provided herein, will be final and conclusive. These provisions are included in the RFP expressly in consideration for such waiver and agreement by the DB Team.
If a DB Team disregards, disputes, or does not follow the exclusive protest remedies set forth in the RFP, it shall indemnify, defend, and hold harmless GDOT and its respective directors, officers, officials, employees, agents, representatives, advisors and consultants from and against all liabilities, expenses, costs (including attorneys’ fees and costs), fees, and damages incurred or suffered as a result of such DB Team's actions. The submission of a Proposal by the DB Team shall be deemed DB Team's irrevocable and unconditional agreement with such indemnification obligation.

Notwithstanding the existence of a protest, GDOT may, in its sole discretion, continue the procurement process or any portion thereof.

If a DB Team elects to protest the bid for this project, as permitted, the DB Team shall submit to the GDOT in writing, signed by a company officer authorized to sign contracts on behalf of the DB Team within the filing period.

At a minimum, the protest must include the following:

(a) the name and address of the Proposer submitting the bid protest;

(b) a statement of grounds for the protest and its factual basis;

(c) supporting exhibits, evidence, or documents to substantiate any claims unless not available within the filing time (in which case the DB Team must proceed to file the protest within the filing period, but state the expected availability of the material supporting its claim); and

(d) the desired remedy.

The DB Team is required to identify all grounds for protest during the protest filing period. GDOT, at its discretion, may deem issues not raised in the protest filing period as voluntarily relinquished by the protesting DB Team. After the protest filing period expires, any grounds for protest voluntarily relinquished by the protesting DB Team may not be introduced by the protesting DB Team at any time during the protest process or any subsequent litigation.

The DB Team shall label all packages comprising its bid protest as follows:

I-85 Widening from North of SR 53 to North of SR 11/US 129 Project

Bid protests shall be delivered no later than 30 calendar days from Project letting to:

Georgia Department of Transportation
Attention: Chip Meeks
Office of Innovative Delivery / P3 Division
One Georgia Center, 19th Floor
600 West Peachtree Street, NW
Atlanta, Georgia 30308

GDOT shall issue a written decision on the protest within 30 days of the submittal of the protest, and the decision shall be final, conclusive and non-appealable.
SECTION 7.0  NON-RESPONSIVE TECHNICAL PROPOSAL PROCEDURES

7.1 GDOT’s Responsibilities
In the event GDOT deems a Proposer’s Technical Proposal non-responsive, GDOT shall, within two Business Days of such determination, provide each non-responsive Proposer a written explanation as to the reason(s) that their Technical Proposal was deemed non-responsive. An email is considered a proper written notification.

7.2 Proposer’s Responsibilities
Upon receipt of GDOT’s written explanation, the Proposer shall have five Business Days to request GDOT reconsider the non-responsiveness determination. The Proposer's request shall be in writing to the Contracting Officer; shall clearly state the reasons the Proposer believes that GDOT’s determination is in error; and shall include supporting documentation as the Proposer deems appropriate.

7.3 Technical Proposal Resolution
Upon GDOT’s receipt of a Proposer’s written request for reconsideration of the non-responsiveness determination, GDOT will respond in writing within three Business Days with a final determination or an estimate of when a final determination will be made.

7.4 Time Frames
The time frames included are approximate and may be modified by GDOT.

7.5 Costs and Damages
All costs for requests for GDOT to reconsider the non-responsiveness determination shall be the responsibility of the Proposer and shall be undertaken at the Proposer's expense.
SECTION 8.0   GDOT'S RIGHTS AND DISCLAIMERS

8.1   GDOT's Rights

In connection with this procurement, GDOT reserves to itself all rights (which rights shall be exercisable by GDOT in its sole discretion) available to it under applicable law, including without limitation, with or without cause, and with or without notice, the right to:

(a) Develop the Project in any manner that it, in its sole discretion, deems necessary. If GDOT does not execute the Agreement with the Proposer that submitted the Apparent Successful Proposal, GDOT may proceed to the next highest rated Proposer, terminate this procurement and pursue other development or solicitations relating to the Project, or exercise such other rights under the provisions of State law as it deems appropriate;

(b) Investigate the qualifications of any Proposer under consideration, require confirmation of information furnished by a Proposer, require additional information concerning a Proposer's Proposal, require additional evidence of qualifications to perform the Work, and seek or obtain data from any source that has the potential to improve the understanding and evaluation of the Proposals;

(c) Reject all Proposals;

(d) Reject any Proposals received for non-responsiveness to or non-compliance with the RFP requirements;

(e) Issue a new RFP;

(f) Cancel, modify, or withdraw the RFP in whole or in part at any time prior to the execution of the DB Documents, including adding or deleting Proposer responsibilities contained in the RFP;

(g) Modify all dates set or projected in the RFP, including this ITP;

(h) Issue Amendments;

(i) Disqualify any Proposer who changes its Proposal, members of its team, or Key Personnel without GDOT approval;

(j) Review Proposals for adequate DBE participation to include review and analysis of the Proposers DBE Plan to ensure that appropriate goal attainment and good faith effort considerations are contained within the Proposal and that those considerations contemplate the utilization of DBE firms throughout the life of the Project in both the preconstruction and construction phases;

(k) Appoint evaluation committees to review Proposals and seek the assistance of outside technical experts and consultants in evaluating the Proposals;

(l) Accept and review non-conforming Proposals or seek and receive clarifications or supplements to a Proposal;
(m) Waive minor irregularities in Proposals. Minor irregularities are defined as those that will not have an adverse effect on GDOT's interest and will not give a Proposer an advantage or benefit not enjoyed by other Proposers;

(n) Suspend and terminate the procurement at any time; and/or

(o) Exercise any other right reserved or afforded to GDOT under this ITP and applicable law.

8.2 Disclaimers

The RFP does not commit GDOT to enter into an Agreement, nor does it obligate GDOT to pay for any costs incurred in preparation and submission of Proposal(s) or in anticipation of the DB Documents. By submitting a Proposal, a Proposer disclaims any right to be paid for such costs, except for payments related to the Payment for Work Product.

In no event shall GDOT be bound by, or be liable for, any obligations regarding the Work or the Project until such time (if at all) as the DB Documents have been executed, authorized and delivered.

In submitting a Proposal in response to the RFP, the Proposer is specifically acknowledging these disclaimers.
EXHIBIT A

ACRONYMS AND DEFINITIONS

Refer to Volume 1, Exhibit 1 of the RFP.
EXHIBIT B

ADMINISTRATIVE INFORMATION SUBMITTAL REQUIREMENTS

B.1 General Instructions

This Exhibit B describes the required information and submission format regarding Administrative Information Submittals. Proposers shall submit the administrative information required by this Exhibit B, separated and labeled appropriately.

B.2 Contents of the Administrative Information Submittals

Proposers are to provide all information set out in this Exhibit B. Note that Form E is to be submitted separately within three Business Days following Letting.

The Administrative Information Submittals shall consist of the following major elements: Proposer information, certifications and documents (including required forms).

B.2.1 Proposer Information, Certifications and Documents

B.2.1.1 List of Confidential, Trade Secret or Proprietary Information (if Applicable)

If deemed applicable by the Proposer, the Proposal shall include a page executed by the Proposer that sets forth the specific items the Proposer deems confidential, trade secret, or proprietary information protected from public disclosure under the Open Government Laws, in accordance with Section 4.2 of the ITP.

B.2.1.2 Proposal Letter – Form A

The Proposal shall include the Proposal Letter (Form A). The Proposer shall attach to the Proposal Letter evidence of authorization to execute and deliver the Proposal and the DBA, shall identify its authorized representative(s) and shall include all necessary authorization documents (as requested in the Proposal Letter – Form A). Note that additional requirements applicable to single purpose entities and joint ventures are included in Form A.

B.2.1.3 Non-Collusion Affidavit – Form B

The Proposal shall include Form B, certifying that the Proposal is not the result of and has not been influenced by collusion. Note that multiple parties are required to execute copies of Form B.

B.2.1.4 Conflict of Interest Disclosure Statement – Form C

Pursuant to Section 1.6.3, the Proposal shall include a certification on Form C describing potential organizational conflicts of interest, including disclosure of all relevant facts concerning any past, present, or currently planned interest that may present an organizational conflict of interest. Note that multiple parties are required to execute copies of Form C.
B.2.1.5 Construction Contractors Bid Opportunity List – Form E

All Proposers shall submit a completed Construction Contractors Bid Opportunity List as specified in Form E detailing a listing of all firms participating or attempting to participate, on this Project, within three Business Days following Letting.

B.2.1.6 Participating Members, Contractors and Key Personnel Commitment – Form G

A. The Proposal shall include a completed Form G confirming the identity, current availability and commitment to the Project of the Participating Members, Major Non-Participating Members and Key Personnel that were listed by the Proposer in the SOQ.

B. The Proposal shall include a completed Form G confirming the identity, current availability and commitment to the Project of the Participating Members, Major Non-Participating Members and Key Personnel per changes in accordance with Section 2.7 of the ITP and the subsequent approval in writing by GDOT.

B.2.1.7 Equal Employment Opportunity Certification – Form H

The Proposal shall include an executed copy of Form H, regarding participation in contracts subject to federal equal employment opportunity requirements. Note that multiple parties are required to execute copies of Form H.

B.2.1.8 Buy America Certification – Form J

The Proposal shall include an executed copy of Form J, regarding federal “Buy America” requirements.

B.2.1.9 Use of Contract Funds for Lobbying Certification – Form K

The Proposal shall include an executed copy of Form K, regarding use of contract funds for lobbying.

B.2.1.10 Debarment and Suspension Certification – Form L

The Proposal shall include an executed copy of Form L, regarding debarment and suspension of contractors.

B.2.1.11 Work Product Assignment and Assumption – Form N

If a Proposer has indicated, pursuant to Section 3.1.2(q) of the ITP, that it is prepared to sell its ATCs to GDOT in accordance with the terms of Section 3.8 of the ITP (if such Proposer is not selected as the apparent Successful Proposer), such Proposer shall include a completed and executed copy of Form N (Work Product Assignment and Assumption) in its Proposal.
B.2.1.12 Georgia Security and Immigration Compliance Act Affidavit – Form R

The Proposal shall include an executed copy of Form R, regarding participation in the Employment Eligibility Verification Program.

B.2.1.13 Drug Free Workplace – Form T

The Proposal shall include an executed copy of Form T, regarding Drug Free Workplace. Note that multiple parties are required to execute copies of Form T.

B.2.1.14 Certification of Compliance with the State of Georgia’s Sexual Harassment Prevention Policy – Form U

The Proposal shall include an executed copy of Form U, regarding compliance with sexual harassment prevention.

B.2.1.15 Changes in Proposer’s Organization

The Proposal shall include a copy of the letter(s) (if any) issued by GDOT approving changes to the composition of a Proposer’s team (including additions to a Proposer team) or the percentage of equity participation of one or more Participating Members of a team that is a consortium, partnership or joint venture following GDOT’s decision to shortlist a Proposer. Such approval is required under Section 2.7 of the ITP. If a Proposer includes any such letter(s), it shall also include a brief description (two-page maximum) of these changes.

B.2.1.16 Draft Single Purpose Entity Corporate Formation Documents

If Proposer contemplates the creation of one or more single purpose entities as the party to execute the DB Documents, the Proposal shall include a statement acknowledging that the organizational documents for the single purpose entity(ies) will be provided in accordance with Section 6.2.1 of the ITP and the Proposal shall include applicable draft documents for such entity.

B.2.1.17 Executed Copy of Partnering/Consortium Agreement

If the Proposer is a consortium, partnership or any other form of joint venture, the Proposal shall contain an executed teaming agreement or, if the entities making up the Proposer have not executed a teaming agreement, a summary of the key terms of the anticipated agreement.

B.3 No Contract Sum Information

NO PART OF THE ADMINISTRATIVE INFORMATION (INCLUDING, WITHOUT LIMITATION, DELIVERABLES UNDER SECTION B.2.1.16 OR B.2.1.17) SHOULD CONTAIN THE PROPOSER’S PROPOSED CONTRACT SUM OR OTHER INFORMATION THAT WOULD ALLOW SUCH CONTRACT SUM TO BE CALCULATED.
EXHIBIT C

TECHNICAL PROPOSAL SUBMITTAL REQUIREMENTS

The Proposer shall submit the Technical Proposal in accordance with this Exhibit C. The Technical Proposal shall be separated and labeled appropriately and organized. Proposers shall not amend the order or change the section headings. The Technical Proposal shall be limited to an aggregate of 25 pages, including the technical approach, the narrative, appendices and exhibits containing required forms, graphs, any matrices and pertinent data. Charts, graphs, figures and matrices may be submitted using 11X17 inches sheets. Such 11X17 inches sheets will be counted as one page. Multiple charts, graphs, figures or matrices may be provided on each 11X17 inches sheet.

All other pages shall be on 8-1/2X11 inches sheets. Any side of any sheet containing printed material will be counted as one page.

Schedules and drawings will not be counted as part of the page limit.

Dividing sheets and tabs will not count toward the maximum page limit, provided they do not include any additional qualitative information for the Proposal.

C.1 Technical Proposal

GDOT values innovative strategies and thoughtful work planning that result in meeting or achieving earlier Project completion deadlines, minimizing disruption to the traveling public and maintaining safety during construction, and delivering on other project commitments.

GDOT encourages creative and innovative technical solutions, to optimize all aspects of the delivery of the Project, based on the value statements and weighting identified in this Exhibit C and Exhibit E.

The Technical Proposal shall provide the following:

C.1.1. Milestone Deadlines (including Interim Milestone Deadlines for Early Openings)

GDOT values early Substantial Completion of the Project and early openings for portions of the work prior to Substantial Completion. Provide a narrative describing how the proposer will provide openings for Early Portions of the Work to the traveling public in an effort to reduce congestion within the corridor. Describe how the phasing strategies facilitate completion of useable segments and how they provide early improvement in regional mobility and major regional arterial connectivity.

(a) Early openings of portions of the Work shall be in accordance with the requirements set forth in Volume 1, Article 7.7.4 (Early Opening of Portions of the Project).

(b) Provide a detailed description of the boundaries for each of the Early Portions of the Work. Proposal shall also include Schematic Plans indicating graphically the limits of the Early Portions of the Work. Schematic Plans of the Project will not count towards the proposals page limit.
Prepare the Proposal Schedule as a computer-generated critical path method (CPM) graphic diagram that utilizes the precedence diagram method and clearly delineates the relationships between all Work activities. Indicate the critical path and date to achieve each milestone included on Form M (which shall become the Completion Deadlines shown in Volume 1, Exhibit 9). These milestone dates shall not include Float in the Proposal Schedule. In the event Float is shown on these milestone dates, the Proposer’s Proposal Schedule milestones will be evaluated based on the early start and early finish dates. The Proposal Schedule shall support the Milestone Deadlines identified in Form M. In case of discrepancy between the durations to achieve each milestone shown in Form M and the Proposal Schedule, Form M shall govern. Volume 1, Exhibit 9 shall be updated prior to execution of the DB Documents to reflect these Completion Deadlines included in the Proposal Schedule. The Proposal Schedule shall:

(a) Be prepared utilizing Primavera P6 or equivalent CPM software.

(b) Align with the Proposer’s Construction Staging and Traffic Management Plan.

(c) Have a data date (status date) on or before the anticipated date of NTP 1 using a beginning of day convention.

(d) Include milestone activities for NTP 1, NTP 2, NTP 3 and each Completion Deadline shown on Form M (which shall become the Completion Deadlines shown in Exhibit 9 of the DBA).

(e) Use standard and consistent activity identification numbers and activity textual descriptions (a.k.a. activity names). Each activity name must be unique and consist of a verb, noun, and location/identifiable work element.

(f) Contain a minimum of 400 schedule activities. Include and illustrate all significant Work activities that occur between NTP 1 and Final Acceptance. Include activities for design, permitting, right of way, utilities, construction, and Project closeout. Show separate design packages with appropriate logic ties to each construction phase.

(g) Use durations in whole calendar days with a maximum duration of 90 Days, unless otherwise stipulated in the RFP. Ensure activity durations represent the anticipated work effort to complete the task, reflect planned production rates, and do not conflict with any time requirement in the DB Documents.

(h) Indicate the order and interdependence of activities and sequence for accomplishing the Work. Show the Proposer’s overall approach to the planning, scheduling and execution of the Work. Ensure all activities, except for the first and last, have a minimum of one predecessor activity and one successor activity. Ensure the majority of activity relationship types are finish-to-start (FS) with no leads or lags.

(i) Satisfactorily account for anticipated adverse weather and show maintenance of traffic/closure or restriction periods, self-imposed and regulatory non-Work periods for environmental or other restrictions, all non-Work periods, and any other time restrictions prescribed by the DBA.
(j) Be provided as a Gantt chart (activity table and bar chart) in 11X17 inches color PDF format. Display the following:

i All activities in the network sufficiently organized by Work-Breakdown Structure (WBS) or equivalent Activity Coding and sorted by Start (Early), then by Finish (Early).

ii Legibly readable columns in the activity table for: Activity Id, Activity Name, Original Duration, Start (Early), Finish (Early), Free Float, and Total Float.

iii Bars/milestones for all activities in the network in the bar chart. Utilize red colored bars to indicate the critical path(s) and green colored bars to indicate non-critical activities. Show milestones as diamond shaped events (or equivalent format pertinent to the software utilized to prepare the Proposal Schedule).

iv Bar chart timescale set to calendar year/month and inclusive of time from NTP 1 through Final Acceptance.

Show NTP 1 as the initial activity. Assume NTP 1 occurs 90 days after Letting (Selection of Apparent Successful Proposer) for purposes of the Proposal Schedule only.

C.1.2. Construction Management Narrative (including Traffic Control)

C.1.2.1 Construction Staging and Traffic Control

Provide a construction staging and transportation management plan narrative addressing the approach to accommodate and minimize impacts to traffic during construction. Include clear, measurable, and specific commitments.

GDOT values providing a safe, predictable environment during construction while maintaining the highest possible level of service in the corridor, including safe access, smooth pavement transitions, and minimizing narrow shoulders and narrow travel lanes.

The narrative shall:

(a) Discuss how the construction phasing will be accomplished, identifying the most significant known and anticipated Project challenges (no more than five) to the construction phasing and how they will be addressed.

(b) Discuss work areas, sequencing of work, and locations of lay down areas. Address:

i Approach to minimizing impacts to the traveling public from staging or laydown yard locations.

ii Approach to minimizing impacts to the traveling public, public recreational users (if present), and other stakeholders from noise, vibration, dust, erosion, and light.
iii Safe ingress and egress to and from the Work zone during construction, including approach to addressing truck acceleration and deceleration when merging into or departing from traffic.

(c) Discuss approach to staging. Address:

i Traffic control phased to maximize flow within the allowable lane closures.

ii Establishing temporary visual barriers or other methods to minimize user distraction and impacts from the Work taking place in close proximity to the Travel Lanes.

iii Minimizing the impact of the construction during peak-time congestion.

(d) Discuss approach to optimizing driving conditions during construction so that motorists are minimally impacted. Address:

i Maintaining clear, easily identified temporary pavement markings.

ii Minimizing degradation of pavement conditions from removal of existing pavement markings.

iii Minimizing the need for narrowed lanes and shoulders.

iv Smooth, consistent transitions between temporary and permanent pavement.

v Rapid response times to maintenance of the facilities.

vi Use of enhanced public outreach strategies to inform and update the traveling public.

C.1.3. Project Approach to Safety

GDOT values providing a safe, predictable environment during construction while maintaining the highest possible level of service in the corridor, including safe access, smooth pavement transitions, and minimizing narrow shoulders and narrow travel lanes.

The narrative shall include a description of the preliminary, project-specific safety plan and how the Proposer plans on promoting and ensuring safety during the term of the DBA. The safety plan shall address worker safety and safe ingress and egress to the Site for construction workers and vehicles. The safety plan shall also discuss safety roles/responsibilities of any Key Personnel or project specific safety personnel, such as a Safety manager, and described how they are utilized during Construction.

C.1.4. DBE Utilization

GDOT values a comprehensive, effective, and proactive program for utilization of DBEs, the extent to which the Proposer demonstrates commitment in obtaining the participation of
subcontractors, subconsultants and suppliers; establishing organizational processes and team structures to effectively maximize DBE participation on all phases of the Project.

Provide a narrative describing the Proposer’s commitment to:

(a) Meeting or exceeding the DBE participation goals by developing a robust, comprehensive DBE plan.

(b) Integrating DBEs at all levels and areas of the Project to create a diverse mix of DBE firms. Proposer shall identify the area of work for each DBE firm proposed to be utilized. Work areas for engineering shall be designated by GDOT Area Classes and work areas for construction shall be designated by GDOT Work Codes. A full list of GDOT Work Codes is provided below. No one area of work can account for more than 30% of DBE participation;

109 Hauling Fuel
149 Construction Layout
150 Traffic Control
154 Construction Vibration Monitoring
163 Miscellaneous Erosion Control Items
167 Water Quality Monitoring
201 Clearing and Grubbing Right of Way
205 Roadway Excavation
205a Hauling Soil within the Project
205b Blasting
206a Hauling Soil to the Project
208 Embankments
209 Subgrade Construction
301 Soil-Cement Construction
310 Graded Aggregate Construction
310a Hauling GAB
400 Hot Mix Asphaltic Concrete Construction
400a Hauling Asphaltic Concrete Mix
400b Hauling Liquid AC
424 Surface Treatment
431 Grind Concrete Pavement
432 Mill Asphalt
432a Hauling Millings
439 PCC Pavement
441 Miscellaneous Concrete
452 Full Depth Slab Replacement
461 Sealing Roadway & Bridge Joints & Cracks
500 Concrete Structures (Bridges & Culverts)
500a Retaining Walls
500b Grooved Concrete
501 Steel Structures
502 Timber Structures
507 Prestressed Concrete Bridge Members
511 Reinforcement Steel
513 Prpst Rein Conc Bx Clvt Brl & End Sect
520 Piling
524 Drilled Caisson Foundations
(c) Engaging DBE firms in many aspects of the Work throughout the life of the Project, including in the design and construction of the project, particularly in typically under-utilized areas of project delivery.

(d) Maximizing opportunities to provide meaningful work for DBEs in management, professional services, and key Project roles.

(e) Growing the capacity of DBE firms in new or under-represented areas through training and growth programs (including management and professional services).

C.2 Project Differences from Reference Information Documents (RIDs)

The Proposer shall show how its approach to any of the design and construction of the Project, including the use of approved ATCs, differs materially from the design provided in the RIDs. The Proposer shall include Schematic Plans of the Project with these differences clearly identified. Schematic Plans of the Project will not count towards the Proposal’s page limit.

In addition to the schematic plans also complete and include Form Q, if applicable.

C.3 Closure Durations, Interim Completion, Substantial Completion, and Final Acceptance Proposal – Form M

Unless otherwise noted, state in Form M the duration in (calendar) days from NTP 1 for each Completion Deadline, including proposed Interim Completion Deadlines, if applicable. State
closure durations as directed in Form M. Form M will not count towards the Technical Proposal page limit.

C.4 No Contract Sum Information

NO PART OF THE TECHNICAL PROPOSAL, INCLUDING THE PROPOSAL SCHEDULE, SHOULD CONTAIN THE PROPOSER’S PROPOSED CONTRACT SUM OR OTHER INFORMATION THAT WOULD ALLOW SUCH CONTRACT SUM TO BE CALCULATED.
EXHIBIT D

PRICE PROPOSAL AND PROPOSAL BOND SUBMITTAL REQUIREMENTS

The Proposer shall submit the Price Proposal in accordance with this Exhibit D. The Price Proposal shall be separated and labeled appropriately and organized in accordance with the following requirements.

Provide a dividing sheet to separate any Financial Statements and the Other Financial Capacity Information (if required) from the Forms D, F, and I. Dividing sheets are not required to separate the Forms individually.

D.1 General Instructions

This Exhibit D describes the required information and submission format for the Price Proposal.

The Proposer shall submit the information required by this Exhibit D in the format specified herein. The Proposer shall not amend the order or change the section headings. Each component of the Price Proposal shall be clearly titled and identified.

All Forms named herein are attached to the ITP. All blank spaces in the Proposal Forms must be filled in as appropriate. No substantive change shall be made in the Proposal Forms.

The Proposer shall indicate their Proposal Price as indicated on Form F.

D.2 Format of Price Proposal

All financial information provided in the Price Proposal shall be in U.S. Dollar currency only and all amounts shall be clearly identified as nominal dollars.

If there are any differences between the sum of the individual line amounts and totals, the individual line amounts will prevail.

If required due to the Proposer being a single purpose entity or Joint Venture, Financial Statements and Financial Capacity Information shall be submitted electronically in accordance with Sections D.3.1 and D.3.2 below. Note that the hard copy of the Financial Statements and Financial Capacity Information, if applicable, shall be submitted in a tabulated binder within three Business Days following Letting in accordance with Section 6.2.1.

ALL REQUIREMENTS OF EXHIBIT D SHALL BE SUBMITTED IN A SEPARATE PACKAGE LABELED WITH ONLY THE NAME OF THE PROPOSER AND “EXHIBIT D – PRICE PROPOSAL”. NO OTHER PART OF THE PROPOSAL SHOULD CONTAIN THE PROPOSER’S PROPOSED CONTRACT SUM OR OTHER INFORMATION THAT WOULD ALLOW SUCH CONTRACT SUM TO BE CALCULATED.

D.3 Contents of Price Proposal

D.3.1. Financial Statements (For Single Purpose Entities or Joint Ventures Only)

Subject to Section D.3.2(b) below, the Price Proposal shall include electronic financial statements to the extent available for the Proposer, the Participating Members, and, if
applicable, any joint venturers which include Major Non-Participating Members, for all periods subsequent to those statements previously submitted to GDOT during the procurement process.

These subsequent statements must be audited by a certified public accountant in accordance with U.S. Generally Accepted Accounting Standards (GAAP), International Financial Reporting Standards (IFRS) or accompanied by a letter in the form specified in paragraph (f) below.

Financial statements shall be provided in U.S. Dollars where practicable, but financial statements in other currencies will be allowed if the conversion rates for each exhibit are clearly stated and can be confirmed. If audited financial statements are not available for a Participating Member or Major Non-Participating Member, the Proposal shall include unaudited financials for such member, certified as true, correct and complete by the chief financial officer or treasurer of the entity.

If audited financial statements are not available, the Proposal shall include unaudited financial statements for such entity, certified as true, correct and accurate by the chief financial officer or treasurer of the entity.

The financial statements, whether for the most recent completed fiscal year or for the period since the most recent completed fiscal year, must include the following:

(a) Opinion Letter (Auditor’s Report).
(b) Balance Sheet.
(c) Income Statement.
(d) Statement of Changes in Cash Flow.
(e) Notes to the financial statements.
(f) If financial statements are prepared in accordance with principles other than U.S. GAAP or IFRS, a letter must be provided from the certified public accountant of the applicable entity, addressing the areas of the financial statements that would be affected by a conversion to U.S. GAAP or IFRS, and the financial impact thereof. A restatement of the financial information in U.S. GAAP or IFRS is not required.

D.3.2. Other Financial Capacity Information (For Single Purpose Entities or Joint Ventures Only)

(a) Newly Formed Entity – If the Proposer is a newly formed entity and does not have independent financial statements, financial statements for the Participating Members and Major Non-Participating Members (if any) and, if applicable, any joint ventures making up the Major Non-Participating Members, shall be sufficient (and the Proposer shall expressly state that the Proposer is a newly formed entity and does not have independent financial statements – but shall nonetheless provide sufficient background information on such entity – i.e. organizational, legal, ownership structure, initial funding, purpose, etc.).

(b) SEC Filings – If any other entity for whom financial information is submitted hereby files reports with the Securities and Exchange Commission (SEC), then
such reports shall be provided through a copy of their annual report on Form 10-K. Also, for all subsequent quarters, provide a copy of any report filed on Form 10-Q or Form 8-K which has been filed since the latest filed 10-K. If any of these reports have previously been submitted to GDOT during the procurement process, they are not required to be resubmitted.

(c) **Credit Ratings** – Credit ratings must be supplied for the Proposer, each Participating Members, each Major Non-Participating Members (if any), each joint venturer making up the Major Non-Participating Members (if applicable) and each Guarantor, to the extent such entities have credit ratings. If no credit ratings exist, include a statement specifying that no credit ratings exist for that entity. If the ratings have been submitted and not changed (and there has not been a change on the rating outlook either, i.e. positive, neutral or negative), there is no need to resubmit.

(d) **Material Changes in Financial Condition** – A letter from the chief financial officer (“CFO”) or treasurer of the Proposer, each Participating Member, each Major Non-Participating Member (if any), each joint venturer making up the Major Non-Participating Members (if applicable) and each Guarantor, in each case providing information on any material changes in financial condition of such entity and, if applicable, its direct or indirect parent entities, since submission of the SOQs and those that are pending. Additionally, Proposers shall be required to provide updated financial information following the Proposal Due Date if the dissemination of such information is permitted by law.

At the discretion of GDOT, any failure to disclose a prior or pending material change may result in disqualification from further participation in the selection process. In instances where a material change has occurred, or is anticipated, the affected entity shall provide a statement describing each material change in detail, the likelihood that the developments will continue during the period of performance of the project development, and the projected full extent of the changes likely to be experienced in the periods ahead. Estimates of the impact on revenues, expenses and the change in equity shall be provided separately for each material change as certified by the CFO or treasurer. References to the notes in the financial statements are not sufficient to address the requirement to discuss the impact of material changes. The affected entity shall also provide a discussion of measures that would be undertaken to insulate the project from any recent material adverse changes, and those currently in progress or reasonably anticipated in the future. If the financial statements indicate that expenses and losses exceed income in the periods between submission of the SOQs and the most recent completed periods (even if there has not been a material change), the affected entity shall provide a discussion of measures that will be undertaken to make the entity profitable in the future and an estimate of when the entity will be profitable.

The following list identifies certain items that GDOT would consider a material change in financial condition. This list is intended to be indicative only.

**List of Indicative Material Changes:**

i. An event of default or bankruptcy involving the affected entity, a related business unit within the same corporation, or the parent corporation of the affected entity.
ii. A downward change in tangible net worth of 10% of shareholder equity.

iii. A sale, merger or acquisition exceeding 10% of the value of shareholder equity prior to the sale, merger or acquisition which in any way involves the affected entity, a related business unit, or parent corporation of the affected entity.

iv. A downward change in credit rating for the affected entity, a related business unit, or parent corporation of the affected entity.

v. Inability to meet conditions of loan or debt covenants by the affected entity, a related business unit or parent corporation of the affected entity which has required or will require a waiver or modification of agreed loan stipulations, or additional credit support from shareholders or other third parties.

vi. The affected entity, a related business unit in the same corporation, or the parent corporation of the affected entity either: (i) incurred a net operating loss; (ii) sustained charges exceeding 5% of the then shareholder equity due to claims, changes in accounting, write-offs or business restructuring; or (iii) implemented a restructuring/reduction in salaried personnel exceeding 200 positions or involving the disposition of assets exceeding 10% of the then shareholder equity.

vii. Other events known to the affected entity, a related business unit or parent corporation of the affected entity which represents a material change in financial condition since submission of the SOQs or may be pending for the next reporting period.

(e) **Letter of Parent Company Support** – Where a Participating Member or Major Non-Participating Member of a Proposer team is a subsidiary of another company, provide a letter from the parent company, signed by a parent company officer, confirming their intention to support the subsidiary’s participation in the Project. This letter must clearly state that the parent company will provide the financial support and human resources needed by the subsidiary to successfully carry out the Project.

(f) **Off-Balance Sheet Liabilities** – A letter from the CFO, treasurer or certified public accountant for each entity for which financial information is submitted, identifying all material off balance sheet liabilities.

(g) **Non-recourse financing** – A letter from the CFO, treasurer or certified public accountant for each entity for which financial information is submitted, identifying the amount of non-recourse financing on the balance sheet.

The information required under this Section D.3.2 shall be packaged separately for each separate entity with a cover sheet identifying the name of the organization and its role in the Proposer’s organization (i.e., Participating Member).

**D.3.3. Proposal Bond – Form D**

In accordance with Section 4.6 of the ITP, the Proposal shall include a properly executed Proposal Bond in the amount described in the form provided in Form D (Form
of Proposal Bond). Note that a copy of Form D is to be submitted electronically, and the executed Form D shall be submitted within three Business Days following Letting in accordance with Section 6.2.1.

D.3.4. DBE Certification and Program Description – Form I

In accordance with Section 1.8 of the ITP, the Proposal shall include an executed copy of Form I confirming, among other things, that the Proposer will make a good faith effort to obtain DBE commitments equal to or exceeding the DBE participation goal provided in Form I.

The Proposal shall also include a commitments list for the project as specified in Form I.

D.3.5. Reserved

D.3.6. Reserved

D.3.7. Contract Sum Information – Form F

THE PRICE PROPOSAL SUBMISSION INCLUDING, WITHOUT LIMITATION, COMPLETED FORM D AND FORM F.

The Proposal shall include the completed Section A of Form F with respect to the Contract Sum, Proposal Schedule of Values as described in this Section D.3 and Form F itself. The Proposal shall also include Form D.

D.4 Price Proposal Score Calculation

The Proposer shall indicate its proposed Proposal SOV and Contract Sum on Form F. Such Contract Sum shall include all DB Team costs and expenses.

The Proposer’s Contract Sum amount will be used to calculate Proposal’s Price Proposal score under Section 5.2 of the ITP and Exhibit E, Section E.2.

D.5 Verification

Each Proposer shall satisfy itself as to the costs and tax consequences of entering into a DBA. GDOT makes no representations or warranties, express or implied, and assumes no liability whatsoever, with respect to costs or the consequences of federal or state income tax treatment of DB Team under the DBA.
EXHIBIT E

EVALUATION CRITERIA AND WEIGHTING

The maximum score for a Proposal will be 1000 points. This will be split as 75% Price Proposal and 25% Technical Proposal. Breakdowns and calculations for the Price Proposal and Technical Proposal scoring are described below.

E.1 Technical Proposal Evaluation Criteria (Maximum 250 Points):

E.1.1. Technical Proposal Scoring Formula

GDOT will score the technical proposals using the following formula:

Technical Proposal Score = Sum of Individual Technical Section Scores

Where:

Maximum Technical Proposal Score = 250

E.1.2. Technical Proposal Evaluation Sections:

Following are the areas and maximum available points for each area that will be evaluated as part of the Technical Proposal Scoring.

Table E-1: Technical Section Available Points

<table>
<thead>
<tr>
<th>Technical Section</th>
<th>Maximum Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone Deadlines (including Interim Milestone Deadlines for Early Openings)</td>
<td>100</td>
</tr>
<tr>
<td>Construction Management Narrative (including Traffic Control)</td>
<td>80</td>
</tr>
<tr>
<td>Project Approach to Safety</td>
<td>50</td>
</tr>
<tr>
<td>DBE Utilization</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Score</strong></td>
<td><strong>250</strong></td>
</tr>
</tbody>
</table>

E.1.3. Milestone Deadlines (including Interim Milestone Deadlines for Early Openings) (Maximum 100 Points)

Opening the I-85 General Purpose lanes in an expedited manner is a goal of GDOT for this project.
The degree to which the Proposer provides usable capacity to the corridor in an expedited manner.

The degree to which the Proposer commits to establishing early Interim Completion Deadlines for Early Portions of the Work and Substantial Completion Deadline. Such commitments to the Interim Completion Deadlines for each of the Early Portions of the Work and Substantial Completion Deadline, shall be submitted by the proposer in Form M, and which will be added to the Exhibit 9 in the executed version of the Agreement.

See Exhibit C, Section C.1 for details regarding the specific information concerning this factor to be submitted as part of the Technical Proposal Submittal Requirements.

E.1.4. Construction Management (including Traffic Control) (Maximum 80 Points)

See Exhibit C, Section C.1.2 for details regarding the specific information concerning this factor to be submitted as part of the Technical Proposal Submittal Requirements.

E.1.4.1 Construction Staging and Traffic Management Narrative

(a) The degree to which a comprehensive, detailed construction phasing and traffic management approach is demonstrated, especially with respect to the bridge Work.

(b) The extent to which significant Project challenges are identified and clear, thoughtful planning in response is demonstrated.

(c) If early openings of usable portions of the Work are proposed as listed in Form M, the extent to which congestion within the corridor will be reduced prior to Substantial Completion.

E.1.4.2 Work Areas, Yard Locations, and Sequencing

(a) The degree to which the Proposer’s yard locations, work areas, and work sequencing demonstrate the minimization of impacts to the traveling public.

(b) The degree to which the Proposer’s yard locations, work areas, and work sequencing demonstrate the minimization of impacts to adjacent routes, and degradation of existing infrastructure.

(c) The degree to which the Proposer’s yard locations, work areas, and work sequencing demonstrate a thoughtful approach to minimizing impacts to public users and stakeholders from noise, vibration, dust, erosion, and light.

(d) The extent to which safe ingress and egress to and from the Work zone during construction is demonstrated, including addressing truck acceleration and deceleration when merging into or departing from traffic.

E.1.4.3 Maintenance of Traffic

(a) The degree to which the Proposer’s preliminary Construction Staging and Traffic Management Plan utilizes safe, effective strategies to minimize the Maintenance
of Traffic (MOT) impacts to corridor motorists and reduce any lane or shoulder closures required.

(b) The degree to which the Proposer utilizes innovative technologies to minimize impacts to the traveling public.

(c) The degree to which the Proposer utilizes enhanced public outreach strategies to inform and update the traveling public.

See Exhibit C, Section C.1.2.1 for details regarding the specific information required concerning this factor to be submitted as part of the Technical Proposal Submittal Requirements, and for values that will be considered during the evaluation of this Section E.1.4.3.

E.1.5. Project Approach to Safety (Maximum 50 Points)

The extent to which the Proposer addresses the value statements in Exhibit C, Section C.1.3, by providing a narrative description of the following:

(a) Expanded safety planning beyond the project itself to include the surrounding road network

(b) Considering work zone strategies when choosing feasible alternatives in the work planning process

(c) Expanding work zone management beyond traffic safety and traffic control to address mobility and operations issues

(d) Promoting innovative thinking in work zone planning, design and management

(e) Providing a way to continuously assess and improve work zone strategies, practices and procedures

E.1.6. DBE Utilization (Maximum 20 Points)

The Proposer's indication and good faith effort that they will meet or exceed the DBE goal established for the Project as set forth on Form I will be scored on a pass/fail basis. Proposers not proposing to meet the DBE goal will be considered non-responsive.

The Proposer will earn points for commitments that add benefit to GDOT to address the GDOT value statements made at Section C.1.4 of Exhibit C in accordance with the following:

a) The degree to which the Proposer commits to exceed the DBE goal established for the Project.

b) Sophistication and level of effort in the planning and program for meeting and exceeding the DBE participation goals through incorporating DBE firms into the project team.
c) Number of DBE firms and individuals in different areas/disciplines on the Proposer’s organization chart, especially in areas of management, professional services, and in typically under-represented areas/disciplines.

E.2 Price Proposal (Maximum 750 Points)

GDOT will score the Contract Sum in accordance with the following formula:

Price Proposal Score = [(Lowest Price Proposal submitted) ÷ (Respective Proposer’s Price Proposal)] x Maximum Price Proposal Score

Where:
Maximum Price Proposal Score = 750

E.3 Proposal Scoring (Maximum 1000 Points)

GDOT will combine the Technical Proposal and Price Proposal Scores using the following formula:

Proposal Score = Technical Proposal Score + Price Proposal Score
LIST OF GDOT PROJECT TEAM

A list of restricted firms (including any affiliates) include:

- ARCADIS U.S., Inc.
- Atkins
- Edwards-Pitman Environmental, Inc.
- HNTB Corporation
- Southeastern Engineering, Inc.
**EXHIBIT G**

**LIST OF E-BUILDER DOCUMENTS**

<table>
<thead>
<tr>
<th>Type</th>
<th>e-Builder Documents*</th>
<th>Posting Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFP</td>
<td>DB Contract</td>
<td>1/17/2020</td>
</tr>
<tr>
<td>RID</td>
<td>Costing Plans</td>
<td>1/17/2020</td>
</tr>
<tr>
<td>RID</td>
<td>Survey Database</td>
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<tr>
<td>RID</td>
<td>Utility Impact Analysis</td>
<td>1/17/2020</td>
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<tr>
<td>RID</td>
<td>Environmental Studies</td>
<td>1/17/2020</td>
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<tr>
<td>RID</td>
<td>Design Exceptions, Variances, Deviations, and Additional Documentation</td>
<td>TBD</td>
</tr>
<tr>
<td>RID</td>
<td>MicroStation Files</td>
<td>1/17/2020</td>
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<tr>
<td>RID</td>
<td>Concept Reports</td>
<td>1/17/2020</td>
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<tr>
<td>RID</td>
<td>Existing Roadway Information</td>
<td>1/17/2020</td>
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<tr>
<td>RID</td>
<td>Existing Bridge Information</td>
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<tr>
<td>RID</td>
<td>Geotechnical</td>
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<td>RID</td>
<td>Hydrology and Hydraulics</td>
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<td>RID</td>
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<tr>
<td>RID</td>
<td>Other Documents</td>
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*Documents are posted to the secure e-Builder site for the Project. Each Proposer is to check the secure e-Builder site regularly for additions or revisions to the documents. Other documents not listed above may be posted as well.*
FORM A

Proposal Letter

PROPOSER: ________________________________________________________________

Proposal Date: ___________, 2020

Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street NW
Atlanta, Georgia 30308

The undersigned ("Proposer") submits this proposal (this "Proposal") in response to that certain Request for Proposals (the "RFP") issued by the Georgia Department of Transportation ("GDOT"), an agency of the State of Georgia, dated January 17, 2020, as amended, to develop the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the "Project"), as more specifically described herein and in the documents provided with the RFP. Initially capitalized terms not otherwise defined herein shall have the meanings set forth in the RFP.

In consideration for GDOT supplying us, at our request, with the RFP and agreeing to examine and consider this Proposal, the undersigned undertakes [jointly and severally][if the Proposer is a joint venture or association other than a corporation, limited liability company or a partnership, leave in the words “jointly and severally,” otherwise delete]:

a) to keep this Proposal open for acceptance for a period of 120 Calendar Days without unilaterally varying or amending its terms and without any member or partner withdrawing or any other change being made in the composition of the partnership/joint venture/limited liability company/consortium on whose behalf this Proposal is submitted, without first obtaining the prior written consent of GDOT, in GDOT’s sole discretion; and

b) to provide security (including bonds and insurance) for the due performance of the Design-Build Agreement (the “DBA”) as stipulated therein.

If selected by GDOT, the Proposer agrees to: (a) enter into the DBA and satisfy all other conditions to execute the Design-Build Documents as set forth in Section 6 of the Instructions to Proposers (“ITP”) included in the RFP; and (b) perform its obligations as set forth in the Design-Build Documents, including compliance with all commitments contained in this Proposal.

Enclosed, and by this reference incorporated herein and made a part of this Proposal, are the following Proposal components:

- Administrative Information Submittals;
- Technical Proposal; and
- Price Proposal

The Proposer acknowledges receipt, understanding and full consideration of the following:

- [list any amendments to the RFP]
The Proposer certifies the following: the Proposal is submitted without reservation, qualification, assumptions or conditions; the Proposer has carefully examined and is fully familiar with all of the RFP documents and is satisfied that the RFP documents provide sufficient detail regarding the intended “Design-Build Team’s” obligations and do not contain internal inconsistencies; the Proposer has carefully checked all the words, figures and statements in the Proposal; the Proposer has conducted such other field investigations and additional design development as is prudent and reasonable in preparing this Proposal; the Proposer has requested clarification or interpretation with respect to any perceived deficiency in or omission from the RFP documents or other documents provided by GDOT; and the Proposer has notified GDOT of any unusual site conditions observed prior to the date hereof.

By signature below and submittal of Form F with the attached Proposal Schedule and Form M with the Technical Proposal, the Proposer hereby certifies it has reviewed its Proposal Schedule and Proposal estimates for the Project and that all Work, including Early Portions of the Work, can be completed within the Milestone Deadlines, including all Interim Milestone Deadlines, Substantial Completion Deadline and Final Acceptance Deadline.

Proposer represents that all statements made in the Statement of Qualifications previously delivered to GDOT by the Proposer are true, correct and accurate as of the date hereof, except as otherwise specified in the enclosed Proposal and Proposal forms. The Proposer agrees that such Statement of Qualifications, except as modified by the enclosed Proposal and Proposal forms, is incorporated as if fully set forth herein.

The Proposer understands that GDOT is not bound to award the DBA to the Proposer submitting the Proposal with the lowest proposed bid, the highest scoring Proposal, or any Proposal GDOT may receive.

Except for any payment for Work Product paid to the Proposer in accordance with the ITP, the Proposer further understands that all costs and expenses incurred by it in preparing this Proposal and participating in the RFP process will be borne solely by the Proposer.

The Proposer acknowledges they have read and understand Exhibit 18 and the Liquidated Damages and Nonrefundable Deductions which may be imposed. The amounts of Liquidated Damages and Nonrefundable Deductions represent good faith estimates as to the actual potential damages that GDOT would incur as a result for failure to meet requirements of the Agreement with associated Liquidated Damages and Nonrefundable Deductions.

The Proposer agrees that GDOT will not be responsible for any errors, omissions, inaccuracies or incomplete statements in the Proposal.
The Proposal shall be governed by and construed in all respects according to the laws of the State of Georgia.

Proposer's business address:

(No.) (Street) (Floor or Suite)

(City) (State or Province) (ZIP or Postal Code) (Country)

State or Country of Incorporation/Formation/Organization: ________________________________

[insert appropriate signature block from following pages]
1. Sample signature block for corporation or limited liability company:
[Insert the Proposer’s name]
By: ______________________________________
Print Name: _______________________________
Title: ____________________________________
2. Sample signature block for partnership or joint venture:
[Insert the Proposer’s name]
By: [Insert general partner’s or member’s name]
   By: ______________________________________
   Print Name: _______________________________
   Title: ____________________________________
[Add signatures of additional general partners or members as appropriate]
3. Sample signature block for attorney in fact:
[Insert the Proposer’s name]
By: ______________________________
Print Name: _____________________________
Attorney in Fact
[insert appropriate signature block from this page including additional requirements]

ADDITIONAL REQUIREMENTS FOR SINGLE PURPOSE ENTITIES AND JOINT VENTURES ONLY:

Describe in detail the legal and organizational structures of the entity (corporation, partnership, joint venture or limited liability company) making the Proposal. Include the following as applicable:

A. Provide a table or tables showing the legal and organizational structure of the anticipated Design-Build Team and any Major Non-Participating Members entity. This table shall describe the role of all Participating Members, Major Non-Participating Members, and Contractors.

B. Provide the following as noted for corporation, partnership, joint venture or limited liability company.

1. If the Proposer (or any member, partner or joint venturer of the Proposer) is a corporation or includes a corporation as a joint venturer, partner or member, provide the following:
   i. the state or country of incorporation in addition to the business address;
   ii. articles of incorporation and bylaws for the Proposer and each corporation
certified by an appropriate individual; and

iii. With respect to authorization of execution and delivery of the Proposal and validity thereof, provide evidence in the form of a resolution of its governing body certified by an appropriate officer of the corporation.

2. If the Proposer (or any member, partner or joint venturer of the Proposer) is a partnership or includes a partnership as a joint venturer, partner or member, provide the following:

i. the state or country of formation;

ii. the full names and addresses of all partners and the equity ownership interest of each entity, provide the incorporation, formation and organizational documentation for the Proposer and each general partner (partnership agreement and certificate of partnership for a partnership, articles of incorporation and bylaws for a corporation, operating agreement for a limited liability company and joint venture agreement for a joint venture) certified by an appropriate individual; and

iii. With respect to authorization of execution and delivery of the Proposal and validity thereof, provide evidence in the form of a partnership resolution and a general partner resolution (as to each general partner) providing such authorization, in each case, certified by an appropriate officer of the general partner.

3. If the Proposer (or any member, partner or joint venturer of the Proposer) is a joint venture or includes a joint venture as a joint venturer, partner or member, provide the following:

i. the state or country of organization;

ii. the full names and addresses of all joint venturers and the equity ownership interest of each entity, provide the incorporation, formation and organizational documentation for the Proposer and each joint venturer (partnership agreement and certificate of partnership for a partnership, articles of incorporation and bylaws for a corporation, operating agreement for a limited liability company and joint venture agreement for a joint venture) certified by an appropriate individual; and

iii. with respect to authorization or execution and delivery of the Proposal and validity thereof, provide evidence in the form of a resolution of each joint venturer, certified by an appropriate officer of such joint venturer. If the Proposer is a joint venture or a partnership, the Proposal must be executed by all joint venture members or all general partners, as applicable.

4. If the Proposer (or any member, partner or joint venturer of the Proposer) is a limited liability company or includes a limited liability company as a joint venturer, partner or member, provide the following:

i. the state or country of organization;
ii. the full names and addresses of all members and the equity ownership interest of each entity, provide the incorporation, formation and organizational documentation for the Proposer and each member (partnership agreement and certificate of partnership for a partnership, articles of incorporation and bylaws for a corporation, operating agreement for a limited liability company and joint venture) certified by an appropriate individual; and

iii. with respect to authorization of execution and delivery of the Proposal and validity thereof, provide evidence in the form of a limited liability company resolution and a managing member(s) resolution providing such authorization, certified by an appropriate officer of the managing member(s). If there is no managing member, each member shall provide the foregoing information.

iv. Attach evidence to the Proposal and to each letter that the person signing has authority to do so.

C. The Proposer’s partnership agreement, limited liability company operating agreement, and joint venture agreement, as applicable, must include an express provision satisfactory to GDOT, in its sole discretion, stating that, in the event of a dispute between or among joint venturers, partners or members, as applicable, no joint venturer, partner or member, as applicable, shall be entitled to stop, hinder or delay work on the Project. Proposers shall submit the applicable agreement to GDOT and identify on a cover page where in the agreement the provision can be found.
FORM B

Non-Collusion Affidavit*

STATE OF __________________________)

COUNTY OF ________________________) SS:

Each of the undersigned, being first duly sworn, deposes and says that:

A. __________ [name] is the __________ [title] of __________ [firm] and __________ [name] is the __________ [title] of __________ [firm], which entity(ies) are the __________ [relationship to Proposer] of __________, the entity making the foregoing Proposal.

B. The Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, joint venture, limited liability company or corporation; the Proposal is genuine and not collusive or a sham; the Proposer has not directly or indirectly induced or solicited any other Proposer to put in a false or sham Proposal, and has not directly or indirectly colluded, conspired, connived or agreed with any Proposer or anyone else to put in a sham Proposal or refrained from proposing; the Proposer has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the prices of the Proposer or any other Proposer, or to fix any overhead, profit or cost element included in the Proposal, or of that of any other Proposer, or to secure any advantage against GDOT or anyone interested in the proposed DBA; all statements contained in the Proposal are true; and, further, the Proposer has not, directly or indirectly, submitted its prices or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, joint venture, limited liability company, organization, Proposal depository or any member, partner, joint venture member or agent thereof to effectuate a collusive or sham Proposal.

C. The Proposer will not, directly or indirectly, divulge information or data regarding the price or other terms of its Proposal to any other Proposer, or seek to obtain information or data regarding the price or other terms of any other Proposal, until after award of the DBA or rejection of all Proposals and cancellation of the Request for Proposals.

* Initially capitalized terms not otherwise defined herein shall have the meanings ascribed thereto pursuant to the Instructions to Proposers within the Request for Proposals for the Project.

[signature page follows]
Subscribed and sworn to before me this ___ day of ____, 20__. 

____________________________________
Notary Public in and for said County and State

[Seal]
My commission expires: ____________________.

[Proposers shall duplicate or modify this form as necessary so that it accurately describes the entity making the Proposal and so that it is signed on behalf of all partners, members, joint venture members, Participating Members and Major Non-Participating Members.]
FORM C

Conflict of Interest Disclosure Statement

Proposer’s Name: __________________________________________ (“Proposer”)

The Proposer’s attention is directed to Section 1.6.3 of the ITP regarding organizational conflicts of interest and the restrictions applicable to such conflicts. Proposers are advised that certain firms will not be allowed to participate on any Proposer’s team for the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the “Project”) because of their work with GDOT in connection with the Project procurement.*

* Initially capitalized terms not otherwise defined herein shall have the meanings ascribed thereto pursuant to the Instructions to Proposers within the Request for Proposals for the Project.

1. **Required Disclosure of Conflicts**

   In the space provided below, and on supplemental sheets as necessary, identify all relevant facts relating to past, present, or planned interest(s) of the Proposer’s team (including the Proposer, Participating Members, Major Non-Participating Members, proposed consultants and proposed subcontractors, and their respective chief executives, directors, and other key personnel for the project) which may result, or could be viewed as, an organizational conflict of interest in connection with this RFP.

   For any facts relating to past, present, or planned interest(s) of the Proposer’s team (including the Proposer, Participating Members, Major Non-Participating Members, proposed consultants and proposed subcontractors, and their respective chief executives, directors, and other key personnel for the project) which may result, or could be viewed as, an organizational conflict of interest in connection with this RFP, the Proposer shall disclose (a) any current contractual relationships with GDOT, (b) any past, present, or planned contractual or employment relationships with any officer or employee of GDOT, and (c) any other circumstances that might be considered to create a financial interest in the contract by any GDOT member, officer or employee, if the Proposer is awarded the DBA. The Proposer shall also disclose matters such as ownership of 10% or more of the stock of, or having directors in common with, any of the individuals or entities involved in preparing the RFP. The Proposer shall also disclose contractual relationships (i.e. joint ventures) with any of the individuals or entities involved in preparing the RFP, including those identified in ITP Exhibit G, as well as relationships wherein such individual or entity is a contractor or consultant (or subcontractor or subconsultant) to the Proposer or a member of the Proposer’s team. The foregoing is provided by way of example, and shall not constitute a limitation on the disclosure obligations.
2. **Explanation**

In the space provided below, and on supplemental sheets as necessary, identify steps the Proposer or other entities have taken or will take to avoid, neutralize, or mitigate any organizational conflicts of interest described herein.
3. **Certification**

   The undersigned hereby certifies that, to the best of his or her knowledge and belief, no interest exists that is required to be disclosed in this Conflict of Interest Disclosure Statement, other than as disclosed above.

   ______________________________________________________
   Signature

   ______________________________________________________
   Name

   ______________________________________________________
   Title

   ______________________________________________________
   Company Name

   __________________________, 20__
   Date

[Proposers shall duplicate or modify this form as necessary so that it accurately describes the entity making the Proposal and so that it is signed on behalf of all partners, members, joint venture members, Participating Members and Major Non-Participating Members, proposed consultants and proposed subcontractors.]
FORM D

Form of Proposal Bond

Bond No. _______

KNOW ALL PERSONS BY THESE PRESENTS, that the ________________, as Principal and ________________, as Surety or as Co-Sureties, each a corporation duly organized under the laws of the State indicated on the attached page, having its principal place of business at the address listed on the attached page, in the State indicated on the attached page, and authorized as a surety in the State of Georgia, are hereby jointly and severally held and firmly bound unto the Georgia Department of Transportation (“GDOT”), in the sum of five percent (5%) of the Price Proposal amount of XXXXXXXXX United States Dollars (US $XXX,XXX,XXX) (the “Bonded Sum”), the payment of which we each bind ourselves, and our heirs, executors, administrators, representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is herewith submitting its Proposal to design and build I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the “Project”), which Proposal is incorporated herein by this reference and has been submitted pursuant to GDOT’s Request for Proposals dated as January 17, 2020 (as amended or supplemented, the “RFP”);

NOW, THEREFORE, the condition of this bond is such that, upon occurrence of any of the events set forth below in subsections (a)-(c), then this obligation shall be null and void; otherwise it shall remain in full force and effect, and the Bonded Sum will be forfeited to GDOT as Liquidated Damages and not as a penalty, upon receipt by the Principal and Surety or by the Principal and Sureties listed on the attached page (the “Co-Sureties”) of notice of such forfeiture from GDOT:

(a) The Principal's receipt of written notice from GDOT that either (i) GDOT will not award the DBA for the Project pursuant to the RFP, or (ii) GDOT has awarded the DBA for the Project, has received the executed DBA and other required documents and does not intend to award the DBA to the Principal;

(b) The Principal’s performance of all of its obligations under the RFP in connection with award of the DBA; or

(c) Failure of GDOT to award the DBA to the Principal within 120 Calendar Days after the Proposal Due Date.

If the Principal shall (i) fail to promptly and properly fully satisfy on a timely basis the conditions for release set forth in (b) above (including, without limitation, any failure to comply on a timely basis with the terms of Section 5.6 of the Instructions to Proposers within the RFP (the “ITP”)) or (ii) withdraw its Proposal in a manner that is not permitted by the ITP, the Principal and the Surety or Co-Sureties hereby agree to pay to GDOT the full Bonded Sum herein above set forth, as Liquidated Damages and not as a penalty, within 10 days after such failure.
In accordance with Section 4.6 of the ITP, GDOT shall return this Proposal Bond to the Principal following GDOT's receipt from Principal of conforming Payment and Performance Bonds.

The following terms and conditions shall apply with respect to this bond:

1. If suit is brought on this bond by GDOT and judgment is recovered, the Principal and Surety or Co-Sureties shall pay all costs incurred by GDOT in bringing such suit, including, without limitation, reasonable attorneys' fees and costs as determined by the court.

2. Any extension(s) of the time for award of the DBA that the Principal may be granted in accordance with the ITP or otherwise, shall be subject to the reasonable approval of Surety or Co-Sureties.

3. The Co-Sureties agree to empower a single representative with authority to act on behalf of all of the Co-Sureties with respect to this Bond, so that Obligee will have no obligation to deal with multiple sureties hereunder. All correspondence from Obligee to the Co-Sureties and all claims under this Bond shall be sent to such designated representative. The Co-Sureties also agree to designate a single agent for service of process with respect to any actions on this Bond, which agent shall either be (a) a natural person or (b) a corporation qualified to act as an agent for service of process under Georgia law. The designated representative and agent for service of process may be changed only by delivery of written notice (by personal delivery or by certified mail, return receipt requested) to Obligee designating a single new representative and/or agent, signed by all of the Co-Sureties. The initial representative shall be:

   ____________________________________________
   ____________________________________________
   ____________________________________________
   [name and address]

   and the initial agent for service of process shall be:

   ____________________________________________
   ____________________________________________
   ____________________________________________
   [name and address]
SIGNED and SEALED this __________ day of ____________________, 20__

Principal
By: __________________________________________________

Co-Surety
By: __________________________________________________
   Attorney in Fact
By: __________________________________________________

Co-Surety
By: __________________________________________________
   Attorney in Fact
By: __________________________________________________

[ADD APPROPRIATE SURETY ACKNOWLEDGMENTS]

CO-SURETIES

SURETY NAME          SURETY ADDRESS          INCORPORATED IN
This information shall be submitted within three Business Days following Letting

<table>
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<tr>
<th>Prime Contractor/Consultant:</th>
<th>Address/Telephone Number:</th>
<th>Bid/Proposal Number:</th>
<th>Quote Submitted MM/YY:</th>
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</table>

49 CFR Part 26.11 requires the Georgia Department of Transportation to develop and maintain a “bid opportunity list”. The list is intended to be a listing of all firms participating or attempting to participate, on DOT assisted contracts. The list must include all firms that bid on prime contracts, or bid or quote subcontracts and materials supplies on DOT-assisted projects, including both DBEs and non-DBEs. For consulting companies, this list must include all subconsultants contacting you and expressing an interest in teaming with you on a specific DOT assisted project. Prime contractors and consultants must provide information for Nos. 1, 2, 3, and 4 and must provide information they have available on Numbers 5, 5.A., 6, 7, 8 and 9 for themselves, and their subcontractors and subconsultants.

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<td>4. Address:</td>
<td>☐ Subconsultant</td>
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<td>5. Contact</td>
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<td>5.A. Company E-mail address</td>
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<tr>
<td>4. Address:</td>
<td>☐ Subconsultant</td>
</tr>
<tr>
<td>5. Contact</td>
<td>☐ Supplier</td>
</tr>
<tr>
<td>5.A. Company E-mail address</td>
<td></td>
</tr>
</tbody>
</table>
Proposer Name: _____________________

The Proposer shall complete the required fields of Section A below. See Exhibit D for additional explanation and requirements.

The Proposer shall indicate its proposed Contract Sum on this Form F.

A. Proposal Schedule of Values (SOV)

All items shall be provided as Lump Sum amounts. If there are any differences between the sum of the individual line amounts and totals, the individual line amounts will prevail.
<table>
<thead>
<tr>
<th>Payment Activity Description</th>
<th>Scheduled Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESIGN COMPLETE</strong></td>
<td></td>
</tr>
<tr>
<td>1. Design</td>
<td>$</td>
</tr>
<tr>
<td><strong>CONSTRUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Field Office</td>
<td>$</td>
</tr>
<tr>
<td>2. Work Zone Law Enforcement</td>
<td>$</td>
</tr>
<tr>
<td>3. Structure Demolition</td>
<td>$</td>
</tr>
<tr>
<td>4. Foundations</td>
<td>$</td>
</tr>
<tr>
<td>5. Substructure Concrete</td>
<td>$</td>
</tr>
<tr>
<td>6. Superstructure</td>
<td>$</td>
</tr>
<tr>
<td>7. Superstructure Beams</td>
<td>$</td>
</tr>
<tr>
<td>8. Approach Slabs</td>
<td>$</td>
</tr>
<tr>
<td>9. Structural Walls</td>
<td>$</td>
</tr>
<tr>
<td>10. Traffic Control</td>
<td>$</td>
</tr>
<tr>
<td>11. Erosion Control</td>
<td>$</td>
</tr>
<tr>
<td>12. Grading</td>
<td>$</td>
</tr>
<tr>
<td>13. Drainage</td>
<td>$</td>
</tr>
<tr>
<td>14. Barrier and Guardrail</td>
<td>$</td>
</tr>
<tr>
<td>15. Aggregate Base Course</td>
<td>$</td>
</tr>
<tr>
<td>16. Asphalt Paving*</td>
<td>$</td>
</tr>
<tr>
<td>17. Concrete Paving</td>
<td>$</td>
</tr>
<tr>
<td>18. Striping and Signing</td>
<td>$</td>
</tr>
<tr>
<td>19. ITS</td>
<td>$</td>
</tr>
<tr>
<td>20. Lighting</td>
<td>$</td>
</tr>
<tr>
<td>21. Utilities</td>
<td>$</td>
</tr>
<tr>
<td>22. CSXT Allowance</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>23. Training Hours (23,000 hours)</td>
<td>$18,400.00</td>
</tr>
<tr>
<td><strong>Subtotal CONSTRUCTION</strong></td>
<td>$</td>
</tr>
<tr>
<td><strong>MISCELLANEOUS ACTIVITIES</strong></td>
<td></td>
</tr>
<tr>
<td>1. General Conditions and Administration**</td>
<td>$</td>
</tr>
<tr>
<td>2. Mobilization (not including demobilization) (Not to exceed 2.5% of Design + Construction)</td>
<td>$</td>
</tr>
<tr>
<td>3. Record Drawings, Punch List, Demobilization, and Final Close-out (No less than 1.0% of Design + Construction)</td>
<td>$</td>
</tr>
<tr>
<td><strong>Subtotal MISCELLANEOUS ACTIVITIES</strong></td>
<td>$</td>
</tr>
<tr>
<td><strong>CONSTRUCTION COMPLETE</strong></td>
<td></td>
</tr>
<tr>
<td>(Subtotal CONSTRUCTION + MISCELLANEOUS ACTIVITIES)</td>
<td>$</td>
</tr>
<tr>
<td><strong>CONTRACT SUM</strong></td>
<td></td>
</tr>
<tr>
<td>(DESIGN COMPLETE + CONSTRUCTION COMPLETE)</td>
<td>$</td>
</tr>
</tbody>
</table>

*GDOT Special Provision 109.11 Price Adjustments does not apply to this Project; Asphalt Cement Price Adjustments will not be considered nor made.
** Includes all management, management plans, payment and performance bond, insurance, project management and coordination, home office overhead and support, and quality management.

BY SIGNATURE BELOW AND SUBMITTAL OF THIS FORM F WITH THE PROPOSAL SCHEDULE, THE PROPOSER HEREBY CERTIFIES IT HAS REVIEWED ITS PROPOSAL SCHEDULE AND PROPOSAL ESTIMATES FOR THE PROJECT AND THAT ALL WORK, INCLUDING EARLY PORTIONS OF THE WORK, CAN BE COMPLETED WITHIN THE MILESTONE DEADLINES, INCLUDING ANY INTERIM COMPLETION DEADLINES, SUBSTANTIAL COMPLETION DEADLINE AND FINAL ACCEPTANCE DEADLINE.

Date: _________________________________

Signature: ______________________________

Design-Build Team: _______________________________
Form G

Form of Participating Members, Major Non-Participating Members, Contractors and Key Personnel Commitment

Proposer’s Name: ______________________________ (the “Proposer”)

The Proposer hereby commits that, if awarded the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the “Project”), the Proposer will use the entities and individuals listed below for their stated positions and that, to the extent within the Proposer’s control, such entities and individuals will be available to fulfill their Project-related responsibilities.

**Lead Contractor:** ______________________________

**Participating Member:** ______________________________

**Lead Design Consultant:** ______________________________

**Key Personnel (Participating Members and Major Non-Participating Members, as appropriate):**

- Lead Contractor Project Manager: ______________________________
- Lead Design Consultant Project Manager: ______________________________
- Engineer of Record: ______________________________
- Contractor Superintendent: ______________________________
- Construction Quality Assurance Manager: ______________________________

Signed: ______________________________

Printed Name: ______________________________

Title: ______________________________

Date: ______________________________
FORM H

Equal Employment Opportunity Certification

[To be executed by the Proposer, Participating Members, Major Non-Participating Members and proposed Contractors]

The undersigned certifies on behalf of _________________________________, that:

(Name of entity making certification)

[check one of the following boxes]

☐ It has developed and has on file at each establishment affirmative action programs pursuant to 41 CFR Part 60-2 (Affirmative Action Programs).

☐ It is not subject to the requirements to develop an affirmative action program under 41 CFR Part 60-2 (Affirmative Action Programs).

[check one of the following boxes]

☐ It has not participated in a previous contract or subcontract subject to the equal opportunity clause described in Executive Orders 10925, 11114 or 11246.

☐ It has participated in a previous contract or subcontract subject to the equal opportunity clause described in Executive Orders 10925, 11114 or 11246 and, where required, it has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President’s Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Signature: _____________________________________

Title: _____________________________________

Date: _____________________________________

If not the Proposer, relationship to the Proposer:__________________________________

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by Proposers only in connection with contracts which are subject to the equal opportunity clause. Contracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally, only contracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by Executive Orders or their implementing regulations.

Proposers, Participating Members, Major Non-Participating Members or proposed Contractors who have participated in a previous contract subject to the Executive Orders and have not filed the required reports shall note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.
FORM I

DBE Certification

DISADVANTAGED BUSINESS ENTERPRISES REQUIREMENTS

The following Project goal for participation by DBEs is established for professional services and construction work:

**DBE GOAL**

12% of the overall Project design and construction costs, with respect to the race conscious participation by the Design-Build Team.

**DBE Certification**

By signing below, the Proposer certifies that (1) the Design-Build Team will provide a good faith effort to meet the goal; and (2) the Design-Build Team will direct its efforts toward the utilization of DBE firms in both design and construction components of the Project, (3) the Design-Build Team will submit a DBE Commitments List meeting the requirements set forth in Attachment 6 to Exhibit 8 to the DBA, (4) the Design-Build Team will submit monthly and annual summary reports of the DBE goal attainment on the Project, identifying the components of the Project on which DBE firms are/have been utilized. See the following page of this form for the Commitments List requirements.

Failure to submit the DBE Commitments List will be considered a breach of the requirements of the RFP. As a result, the Proposal Bond provided by the Proposer will become property of GDOT and the Proposer will be precluded from participating in any re-procurement of the DBA for the Project.

______________________________  
[name]

______________________________  
[title]
The DBE firms to be utilized as counting toward the proposed goal must be listed on this form, along with their addresses, type of work and the amount to be paid to each of the certified DBE firms. The amount entered will not necessarily be the contract amount, but must be the actual amount that will be paid to the DBE firm. In the case of a DBE supplier, the amount paid and 60% of that amount both will be entered; and only the 60% figure should be added to the total. Attach the DBE Commitments list to this Form I; an example of this is shown in Table I-1:

**Table I-1: Example DBE Commitments Chart**

<table>
<thead>
<tr>
<th>Vender Number</th>
<th>Company Name and Address (City and State)</th>
<th>Type of Work</th>
<th>*Work Code</th>
<th>Race Neutral</th>
<th>Race Conscious</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ABC Oil Company Atlanta, GA</td>
<td>Diesel Fuel Supplier</td>
<td></td>
<td></td>
<td></td>
<td>$80,000.00 (60%= $48,000.00)</td>
</tr>
</tbody>
</table>

The Contractor shall indicate for each DBE and Type of Work whether the DBE Participant is Race Neutral or Race Conscious by placing a checkmark in the appropriate column.

**PLEASE NOTE:** For 60% of the amount paid to a DBE supplier to be eligible to count toward fulfilling the DBE goal, the supplier must be an established “regular dealer” in the product involved, and not just a broker. A “regular dealer” would normally sell the product to several customers and would usually have product inventory on hand.
FORM J

Buy America Certification

The undersigned Proposer hereby certifies on behalf of itself and all contractors (at all tiers) the following:

a. The Proposer shall comply with the Federal Highway Administration (“FHWA”) Buy America Requirements of 23 CFR 635.410, which permits FHWA participation in the DBA only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the Contract Sum.

b. A false certification is a criminal act in violation of 18 United States Code (USC) 1001. Should this certification be investigated, the Proposer has the burden of proof to establish that it is in compliance.

c. At the Proposer’s request, GDOT may, but is not obligated to, seek a waiver of Buy America requirements from FHWA if grounds for the waiver exist. However, the Proposer certifies that it will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by GDOT.

Date: ______________________________________
Signature: ________________________________
Title: _____________________________________
Proposer’s Name: _________________________
FORM K

Use of Contract Funds for Lobbying Certification

The undersigned Proposer certifies on behalf of itself and all contractors (at all tiers) the following:

1. The Proposer certifies, to the best of its knowledge and belief, that:
   a. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
   b. If any funds (other than federal appropriated funds) received by the Proposer under the RFP or DBA have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions, and shall include a copy of said form in its proposal or bid, or submit it with the executed DBA or any or Subcontract.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 USC 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The Proposer shall require that the language of this certification be included in all lower tier subcontracts which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

4. The undersigned certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the undersigned understands and agrees that the provisions of 31 USC 3801, et seq., apply to this certification and disclosure, if any.
[Note: Pursuant to 31 USC §1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each expenditure or failure.]

Date: __________________________________________

Proposer: _______________________________________

Signature: _________________________________________

Title: ____________________________________________
FORM L

Debarment and Suspension Certification

The undersigned Proposer certifies on behalf of itself, and all Participating Members, Major Non-Participating Members and Contractors identified by such Proposer as of the date hereof, as follows:

The undersigned certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;

b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, State or local) transaction or contract under a public transaction; violation of federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and

d. Have not within a three-year period preceding this application/proposal had one or more public transactions (federal, State or local) terminated for cause or default.

Where the Proposer is unable to certify to any of the statements in this certification, it shall attach a certification to its proposal or bid stating that it is unable to provide the certification and explaining the reasons for such inability.

Date: _________________________________________

Proposer: ______________________________________

Signature: ______________________________________

Title: __________________________________________
FORM M

Closure Durations, Interim Completion, Substantial Completion, and Final Acceptance Proposal

Proposer Name: _____________________

Complete the required fields, Substantial Completion Deadline and Final Acceptance Deadline, in Table M-1 below. Substantial Completion Deadline and Final Acceptance Deadline cannot exceed the number of days provided in Table M-1 below. The Proposer shall complete the fields below for each portion (segment) of the Work for which the Proposer will commit to an Interim Completion Deadline.

**Required fields are identified with an asterisk (*)**.

**Table M-1: Milestone Deadlines**

<table>
<thead>
<tr>
<th>Milestone Deadlines</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interim Completion Deadline #1 - Open to Traffic</td>
<td>No later than [Number of days] Days after NTP 1</td>
</tr>
<tr>
<td>Interim Completion Deadline #2 - Open to Traffic</td>
<td>No later than [Number of days] Days after NTP 1</td>
</tr>
<tr>
<td>Interim Completion Deadline #3 - Open to Traffic</td>
<td>No later than [Number of days] Days after NTP 1</td>
</tr>
<tr>
<td>Interim Completion Deadline #4 - Open to Traffic</td>
<td>No later than [Number of days] Days after NTP 1</td>
</tr>
<tr>
<td>Interim Completion Deadline #5 - Open to Traffic</td>
<td>No later than [Number of days] Days after NTP 1</td>
</tr>
<tr>
<td>*Substantial Completion Deadline</td>
<td>No later than 1095 Days after NTP 1</td>
</tr>
<tr>
<td>*Final Acceptance Deadline</td>
<td>No later than 180 Days after Substantial Completion</td>
</tr>
</tbody>
</table>

Date: __________________________________________

Proposer: ______________________________________

Signature: ______________________________________

Title: __________________________________________
FORM N

Grant and Assumption of Non-Exclusive Irrevocable License
and Right to Use Work Product

THIS GRANT AND ASSUMPTION OF NON-EXCLUSIVE IRREVOCABLE LICENSE
AND RIGHT TO USE WORK PRODUCT AGREEMENT (this “Agreement”) is made and
entered into as of this ____ day of __________, 20__ by and between the Georgia Department
of Transportation, an agency of the State of Georgia (“GDOT”), and
[___________________________] (the “Proposer”).*

* Initially capitalized terms not otherwise defined herein shall have the meanings ascribed
thereto pursuant to the Instructions to Proposers within the Request for Proposals for the
Project.

WITNESSETH

WHEREAS, the Proposer was invited to submit a detailed proposal in response to the
RFP for the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the
“Project”); and

WHEREAS, in connection with the submittal of such detailed proposal, the Proposer
provided GDOT with proprietary information, trade secrets, techniques, concepts, analyses,
approaches, ideas or other intellectual property or Work Product (which work product may have
included, without limitation, ATCs) (collectively, the “Work Product”); and

Parties to indicate the applicability by initialing below:

(initial) (initial)

WHEREAS, GDOT has made, or will shortly make, its selection of the apparent
Successful Proposer in accordance with Section 5 of the ITP, and desires to make payment for
the non-exclusive, irrevocable right to use the Proposer’s Work Product as of the date of
selection of the apparent Successful Proposal; and

WHEREAS, the Proposer has elected to receive the GDOT Stipulated Fee in the
amount of $200,000, hereto;

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth
in this Agreement and other good and valuable consideration, the receipt and adequacy of
which are acknowledged by the parties, the parties agree as follows:

1. **GDOT’s Rights to and in Proposer’s Work Product.** Subject to Section 2
below, the Proposer hereby conveys to GDOT a non-exclusive, irrevocable license and right to
use the Proposer’s Work Product hereto, which conveyance includes, without restriction or
limitation, the right of GDOT to use (or permit others to so use on its behalf) such Work Product
(including, without limitation, in connection with any DBA awarded for the Project, any
subsequent procurement with respect to the Project or any other GDOT project), with no
obligation to pay additional compensation to the Proposer in connection with such Work
Product. Such use may, at GDOT’s sole and exclusive discretion, include the disclosure of such Work Product (including ATCs) to the Apparent Successful Proposer, if applicable. In receiving such non-exclusive, irrevocable license and right to use the Proposer’s Work Product, GDOT is deemed to similarly be entitled to a non-exclusive, irrevocable license and right to use all Work Product rights, copyrights, patents, trade secrets, trademarks, and service marks in the Proposer’s Work Product, and the Proposer agrees that it will, at the request of GDOT, execute all papers and perform all other acts that may be necessary to ensure that GDOT’s rights, title and interest in the Proposer’s Work Product are protected. The rights conferred herein to GDOT include, without limitation, GDOT’s ability to use the Proposer’s Work Product without the obligation to notify or seek permission from the Proposer.

2. **Condition to Effectiveness.** The rights and obligations of GDOT and the Proposer under this Agreement, shall irrevocably vest upon the date that the Work Product Payment is made by GDOT to the Proposer.

3. **Indemnity.** Subject to the limitation contained below in this Section 3, the Proposer will, at its own expense, indemnify, protect and hold harmless GDOT and its respective agents, directors, officers, employees, representatives and contractors from all claims, costs, expenses, liabilities, demands, or suits at law or equity (“claims”) of, by or in favor of or awarded to any third party arising in whole or in part from: (a) any intellectual property infringement claim or other challenge to the rights of GDOT or its assignees to use the Work Product or (b) any breach of any of the Proposer’s obligations under this Agreement. This indemnity will not apply with respect to any claims caused by or resulting from the sole negligence or willful misconduct of GDOT or its respective agents, directors, officers, employees, representatives or contractors.

GDOT recognizes that the Work Product licensed pursuant to this Agreement is preliminary in nature and that any third party making subsequent use of such Work Product likely will need to modify, developed and advance such Work Product. The indemnity provided in Section 3(a) above shall not extend to any such third-party modification, development or advancement, but shall rather be limited to the rights in the Work Product granted hereunder.

4. **Assignment.** The Proposer will not assign this Agreement without GDOT’s prior written consent, which consent may be given or withheld in GDOT’s sole discretion. Any assignment of this Agreement without such consent will be null and void.

5. **Authority to Enter into this Agreement.** By executing this Agreement, the Proposer specifically represents and warrants that it has the authority to convey to GDOT a non-exclusive, irrevocable license and right to use the Proposer’s Work Product, including, but not limited to, any rights that might have been vested in team members, subcontractors, consultants or anyone else who may have contributed to the development of the Proposer’s Work Product, free and clear of all liens, claims and encumbrances.

6. **Miscellaneous.**

6.1 The Proposer and GDOT agree that the Proposer, its team members, and their respective employees are not agents of GDOT as a result of this Agreement.

6.2 This Agreement embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those
contained herein, and this Agreement will supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto.

6.3 It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the State of Georgia, validity of the remaining portions or provisions will not be affected, and the rights and obligations of the parties will be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

6.4 This Agreement will be governed by and construed in accordance with the laws of the State of Georgia.

IN WITNESS WHEREOF, this Agreement has been executed and delivered as of the day and year first above written.

GEORGIA DEPARTMENT OF TRANSPORTATION

Commissioner

By:____________________________________________

Name: Russell R. McMurry, P.E.

Treasurer

By:____________________________________________

Name: Angela O. Whitworth

[Insert Proposer’s Name]

By:____________________________________________

Name:__________________________________________

Title:____________________________________________

[Insert Firm Name and Address to whom Payment for Work Product is to be made]

Name:__________________________________________

Address:________________________________________

______________________________________________

______________________________________________
FORM O

PAYMENT AND PERFORMANCE BOND FORM

Form O-1 Resident Contractor Payment and Performance Bond Form

Form O-2 Nonresident Contractor Payment and Performance Bond Form
Form O-1  Resident Contractor Payment and Performance Bond Form

DEPARTMENT OF TRANSPORTATION
PERFORMANCE AND PAYMENT BONDS
(GEORGIA RESIDENT CONTRACTOR)

KNOW ALL MEN BY THESE PRESENTS, That we,

[Enter name of contractor] GA

as Principal, and the Corporation or Corporations hereinafter designated as Surety A or Surety ___ inclusive, as Surety or Sureties, are held and firmly bound, both “jointly and severally” as well as “severally” only, unto the Department of Transportation in the penal sum of 120 percent of the Original Contract Amount of:

[Enter written contract amount and then numeric contract amount e.g., One Thousand Dollars $1,000.00]

for the use of the Obligee herein named and of all persons doing work or furnishing skill, tools, machinery, or materials under or for the purpose of this contract hereinafter described; Provided, that it is mutually understood and agreed between the Principal and Surety and/or Sureties and the Obligee herein named that this bond is to be construed as being in compliance with and subject to the provisions of Sections 13-10-1 and 36-82-101 of the Official Code of Georgia Annotated, as well as the other applicable provisions, and that in compliance with the aforesaid sections this instrument is intended and is to be construed as two separate bonds, namely, as a “performance bond” in the full penal sum heretofore set forth, and as a “payment bond”, in an amount equal to 110 percent of the full penal sum heretofore named and that both bonds shall be construed to be in full force and effect at the same time, as the case may be, and that the obligations shall be several, in the full amount of said penal sum, as to each type of bond; and for the payment of which sums well and truly to be made we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents; Provided, that the Sureties bind themselves in such sums “jointly and severally”, as well as “severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, and with each other, for 210 percent of the penal sum of this bond, and provided further that, while each Surety binds itself, jointly and severally with the Principal, for 210 percent of the penal sum herein provided for, the total liability of all Sureties shall not exceed the total penal sum heretofore provided for as to each of the respective obligations herein provided for.

Signed and sealed this day of ____________________________.

<table>
<thead>
<tr>
<th>Surety</th>
<th>Name and State of incorporation</th>
<th>Name and Address of Bonding Agent</th>
<th>Agent Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>Agent Address</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>Agent Phone Number</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td><em>PLEASE PRINT ALL INFORMATION</em></td>
<td></td>
</tr>
</tbody>
</table>

Bond #

Note: The Surety Company for Performance and Payment Bonds shall be a company acceptable as Surety on Federal Bonds and listed in the current Federal Register and licensed in the State of Georgia.
THE CONDITIONS OF THE FOREGOING OBLIGATIONS is such that whereas the above named Principal has entered into a contract with said Department of Transportation bearing even date herewith for the Construction of:

The Project PI 0013545 will widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of SR 11/US 129. The typical section will expand from the existing two lanes to three lanes in each direction within the existing right-of-way (ROW) width. The Project is located in Jackson County. The Work also includes the replacement of six mainline bridges and one overpass bridge.

The surety hereby binds itself to provide performance bond and payment bond for work added by Supplemental Agreement(s) and/or Extension Agreement(s), whereby the original Contract amount or the total Project length may be increased by as much as 20 percent without the written assent of the Surety.

Now, therefore, the condition of these obligations is such that if the above named bound Principal shall in all respects comply with the terms and conditions of said contract, including all modifications or extensions thereof, and his obligations thereunder, including the notice to contractors, the plans, general conditions, specifications, special provisions and proposals, therein referred to and made a part thereof, and shall complete the said contract in accordance with its terms and shall save Obligee free from all cost and charge that may accrue on account of the doing of the work specified, then this bond, construed as a “performance bond” shall be void, otherwise of full force and effect.

Provided further, that upon the failure of the said Principal to promptly and efficiently prosecute said work, in any respect, in accordance with the contract, the above bound Surety or Sureties shall take charge of said work and complete the contracts at its own expense, pursuant to its terms, receiving, however, any balance of funds in the hands of said Department of Transportation under said contract.

And, further, the condition of these obligations is such that if the above bound Principal shall make prompt payment to all subcontractors and all other persons supplying labor, materials, machinery and equipment furnished for the performance of the work provided for in said contract, as well as all duly authorized modifications thereof which may hereafter be made, including any extension of time to complete the same, then this bond, as a “payment bond”, shall be void, otherwise of full force and effect.

It is agreed that, in the event that this bond is executed by more than one surety company, the term “Surety” as used in this bond shall be construed to mean any one or all of such surety companies executing this bond. It is further agreed that such surety companies herein named and executing this bond as surety for the Principal, by mutual agreement between themselves, and with the Principal, and with the Obligee herein named, do hereby designate and authorize:

as the “controlling surety”

It is further agreed that the term, “controlling surety”, shall be defined as that one of such sureties herein designated and authorized by all of such sureties, upon whom any notice or other demand may be made by the Obligee herein named, or other person having a claim against the Principal under the provisions of this bond, or with whom such Obligee, or other such person, may negotiate or deal as to any matter pertaining to the obligations of this bond, and against whom any right of action growing out of this bond may be enforced, as provided for by Sections 36-82-102 through 36-82-105 of the Official Code of Georgia Annotated as fully and effectively as though the same were had or done with each of such named sureties individually, and with the right upon the part of such “controlling surety” to vouch such co-sureties into court to defend any action against it or them arising out of the obligations of this bond, as provided by Section 9-10-13 of the Official Code of Georgia Annotated, or to call upon such co-sureties, in accordance with the terms of any notice, demand, suit, suit at law, or other action, commenced or brought against it by the
Obligee named herein, or any other person having a claim against the Principal under the conditions and provisions of this bond, or in accordance with any private contract between the sureties executing this bond on behalf of said Principal, it being the purpose and intent of this contract that the Obligee named in this bond, or such other person having a claim under the provisions of this bond, may enforce any right that it or they may have growing out of this bond by notice, demand, negotiation, suit, or other appropriate action against the controlling surety only, and such action shall be deemed to be binding upon all the sureties named herein; Provided however, the foregoing notwithstanding, the Obligee, or such other person having a claim under this bond, at its or their option, may take such action against any or all of said surety companies.

It is agreed by the parties hereto that in the event the Department of Transportation in making the contract with the Principal herein shall be acting as Agent for the United States Government, or for the Jackson County(ies)

or for both, as well as for itself, then the said Department of Transportation shall have the right in the event of a breach of the contract resulting in loss to the said County or to the United States Government; or to itself, to maintain a suit hereon for the use of itself, or the United States Government, or said County as well as for itself; or said County and said United States Government shall have the right in their own names to maintain a suit herein in the same manner and to the same extent as the Department of Transportation has by virtue of Sections 36-82-104 and 36-82-105 of the Official Code of Georgia Annotated.

IN WITNESS WHEREOF, the said “Authorized Signer” and the said “Surety” have duly executed this bond under seal this date ________________________________.

Signed, Sealed, and Delivered in the presence of us.

IN WITNESS WHEREOF THE PARTIES HAVE SET THEIR HANDS AND AFFIXED THEIR SEALS

______________________________  ________________________________
Signature of Contractor(SEAL)    Signature of Attorney-In-Fact (SEAL)

______________________________  ________________________________
Printed Name of Signee:          Printed Name of Signee:
Form O-2 Nonresident Contractor Payment and Performance Bond Form

DEPARTMENT OF TRANSPORTATION
PERFORMANCE, PAYMENT, AND NONRESIDENT CONTRACTOR’S TAX BONDS
(NONRESIDENT CONTRACTOR)

KNOW ALL MEN BY THESE PRESENTS, That we,

[contractor]
(state)

as Principal, and the Corporation or Corporations hereinafter designated as Surety A or Surety B to Surety ______ inclusive, as Surety or Sureties, are held and firmly bound, both “jointly and severally” as well as “severally” only, unto the Department of Transportation in the penal sum of 120 percent of the Original Contract Amount of:

[fill in written contract amount and then numeric contract amount e.g., One Thousand Dollars $1,000.00]

for the use of the Obligee herein named and of all persons doing work or furnishing skill, tools, machinery, or materials under or for the purpose of this contract hereinafter described, and for the use of the State and all political subdivisions thereof for all taxes (including contributions due under the employment security law), together with penalties and interest collectible as taxes, which may accrue during the period of this bond on account of the execution and performance of this contract hereinafter described; Provided, that it is mutually understood and agreed between the Principal and Surety and/or Sureties and the Obligee herein named that this bond is to be construed as being in compliance with and subject to the provisions of Sections 13-10-1, 36-82-101, and 48-13-30 through 48-13-38 of the Official Code of Georgia Annotated, as well as the other applicable provisions, and that in compliance with the aforesaid sections this instrument is intended and is to be construed as three separate bonds, namely, as a “performance bond” in the full penal sum heretofore set forth, and as a “payment bond”, in the full penal sum heretofore named, and as a “tax bond” in the amount of ten percent of the full penal sum heretofore named and that all bonds shall be construed to be in full force and effect at the same time, as the case may be, and that the obligations shall be severable as to each type of bond; and for the payment of which sums well and truly to be made we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents; Provided, that the Sureties bind themselves in such sums “jointly and severally”, as well as “severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, and with each other, for 210 percent of the penal sum of this bond, and provided further that, while each Surety binds itself, jointly and severally with the Principal, for 210 percent of penal sum herein provided for, the total liability of all Sureties shall not exceed the total penal sum heretofore provided for as to each of the respective obligations herein provided for.
Signed and sealed this day of ______________________________.

Surety
A Name and State of incorporation

Name and Address of Bonding Agent
Agent Name: ____________________________

B Agent Address

C Agent Phone Number

D *PLEASE PRINT ALL INFORMATION*

Bond #

Note: The Surety Company for Performance and Payment Bonds shall be a company acceptable as Surety on Federal Bonds and listed in the current Federal Register and licensed in the State of Georgia.

THE CONDITIONS OF THE FOREGOING OBLIGATIONS is such that whereas the above named Principal has entered into a contract with said Department of Transportation bearing even date herewith for the Construction of:

The Project PI 0013545 will widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of SR 11/US 129. The typical section will expand from the existing two lanes to three lanes in each direction within the existing right-of-way (ROW) width. The Project is located in Jackson County. The Work also includes the replacement of six mainline bridges and one overpass bridge.

The surety hereby binds itself to provide performance bond and payment bond for work added by Supplemental Agreement(s) and/or Extension Agreement(s), whereby the original Contract amount or the total Project length may be increased by as much as 20 percent without the written assent of the Surety.

Now, therefore, the condition of these obligations is such that if the above named bound Principal shall in all respects comply with the terms and conditions of said contract, including all modifications or extensions thereof, and his obligations thereunder, including the notice to contractors, the plans, general conditions, specifications, special provisions and proposals, therein referred to and made a part thereof, and shall complete the said contract in accordance with its terms and shall save Obligee free from all cost and charge that may accrue on account of the doing of the work specified, then this bond, construed as a “performance bond” shall be void, otherwise of full force and effect.

Provided further, that upon the failure of the said Principal to promptly and efficiently prosecute said work, in any respect, in accordance with the contract, the above bound Surety or Sureties shall take charge of said work and complete the contracts at its own expense, pursuant to its terms, receiving, however, any balance of funds in the hands of said Department of Transportation under said contract.

And, further, the condition of these obligations is such that if the above bound Principal shall make prompt payment to all subcontractors and all other persons supplying labor, materials, machinery and equipment furnished for the performance of the work provided for in said contract, as well as all duly authorized modifications thereof which may hereafter be made, including any extension of time to complete the same, then this bond, as a “payment bond”, shall be void, otherwise of full force and effect.

It is agreed that, in the event that this bond is executed by more than one surety company, the term “Surety” as used
in this bond shall be construed to mean any one or all of such surety companies executing this bond. It is further agreed that such surety companies herein named and executing this bond as surety for the Principal, by mutual agreement between themselves, and with the Principal, and with the Obligee herein named, do hereby designate and authorize:

as the “controlling surety”

It is further agreed that the term, “controlling surety”, shall be defined as that one of such sureties herein designated and authorized by all of such sureties, upon whom any notice or other demand may be made by the Obligee herein named, or other person having a claim against the Principal under the provisions of this bond, or with whom such Obligee, or other such person, may negotiate or deal as to any matter pertaining to the obligations of this bond, and against whom any right of action growing out of this bond may be enforced, as provided for by Sections 36-82-102 through 36-82-105 of the Official Code of Georgia Annotated as fully and effectively as though the same were had or done with each of such named sureties individually, and with the right upon the part of such “controlling surety” to vouch such co-sureties into court to defend any action against it or them arising out of the obligations of this bond, as provided by Section 9-10-13 of the Official Code of Georgia Annotated, or to call upon such co-sureties, in accordance with the terms of any notice, demand, suit, suit at law, or other action, commenced or brought against it by the Obligee named herein, or any other person having a claim against the Principal under the conditions and provisions of this bond, or in accordance with any private contract between the sureties executing this bond on behalf of said Principal, it being the purpose and intent of this contract that the Obligee named in this bond, or such other person having a claim under the provisions of this bond, may enforce any right that it or they may have growing out of this bond by notice, demand, negotiation, suit, or other appropriate action against the controlling surety only, and such action shall be deemed to be binding upon all the sureties named herein; Provided however, the foregoing notwithstanding, the Obligee, or such other person having a claim under this bond, at its or their option, may take such action against any or all of said surety companies.

It is agreed by the parties hereto that in the event the Department of Transportation in making the contract with the Principal herein shall be acting as Agent for the United States Government, or for the [name of county] County(ies)

or for both, as well as for itself, then the said Department of Transportation shall have the right in the event of a breach of the contract resulting in loss to the said County or to the United States Government; or to itself, to maintain a suit hereon for the use of itself, or the United States Government, or said County as well as for itself; or said County and said United States Government shall have the right in their own names to maintain a suit herein in the same manner and to the same extent as the Department of Transportation has by virtue of Sections 36-82-104 and 36-82-105 of the Official Code of Georgia Annotated.
IN WITNESS WHEREOF THE PARTIES HAVE SET THEIR HANDS AND AFFIXED THEIR SEALS

[signature of contractor] [signature of surety]

__________________________________________  ____________________________________________
Signature of Contractor(SEAL)  Signature of Attorney-in-Fact (SEAL)

__________________________________________  ____________________________________________
Printed Name of Signee:  Printed Name of Signee:
FORM P

ATC Checklist

The DB Team shall check mark in the appropriate box for each item. Any box left incomplete will require a resubmittal of the ATC. If "Change Required" box is checked, the DB Team shall provide a description of the change or deviation from the NEPA Approval, Technical Provisions (Volume 2 and its respective attachments), Manuals (Attachment 3-1), and the DBA Volume 1 requirements.

[See following pages]
### NEPA Study Impacts

<table>
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### DB Contract – Volume 2

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<td>Any related Attachments</td>
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**Design Exceptions and Variances**

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<th>Description of each Design Exception or Variance</th>
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1. Does the ATC require any Design Exceptions?

2. Does the ATC require any Design Variances?

**Volume 2, Attachment 3-1 (list any Manuals which require changes including section number)**

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Form P  Page 3
FORM Q

Approved ATCs

List all ATCs approved by GDOT that are included in Proposal:

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<th>ATC Number</th>
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List all ATCs approved by GDOT that are not included in Proposal, and a brief description why not included:

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<th>ATC Number</th>
<th>ATC title/name and brief description why not included in Proposal</th>
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FORM R

Georgia Security and Immigration Compliance Act Affidavit

Contract No. and Name:
Design-Build Agreement for the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the “Project”)

Name of Contracting Entity: ______________________________________________________

By executing this affidavit, the undersigned person or entity verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm, or corporation which is contracting with the Georgia Department of Transportation has registered with, is authorized to participate in, and is participating in the federal work authorization program commonly known as E-Verify, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.

The undersigned person or entity further agrees that it will continue to use the federal work authorization program throughout the contract period, and it will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the undersigned with the information required by O.C.G.A. § 13-10-91(b).

The undersigned person or entity further agrees to maintain records of such compliance and provide a copy of each such verification to the Georgia Department of Transportation at the time the subcontractor(s) is retained to perform such service.

___________________________________ __________________________
EEV/E-Verify™ User Identification Number   Date of Authorization

___________________________________ __________________________
BY: Authorized Officer or Agent   Date
(Name of Person or Entity)

Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE
__ DAY OF ____________ 20__

___________________________________
Notary Public

My Commission Expires: ________________

1 or any subsequent replacement operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603.
FORM S

Opinion of Counsel

[Letterhead of independent law firm or in-house counsel – See Section 6.2.1 of the ITP for legal counsel requirements – If applicable]

[Mr. Matthew Cline]
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

Re: Design-Build Agreement for the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the “Project”)

Dear Mr. Cline,

This letter is provided with regard to the Design-Build Agreement dated as of __________, 2020 (the “DBA”), by and between the Georgia Department of Transportation (“GDOT”), an agency of the State of Georgia, and ___________ (the “Design-Build Team”) for the I-85 Widening from North of SR 53 to North of SR 11/US 129 Project (the “Project”).

[Describe relationship to Design-Build Team and its joint venture members, general partners, members, as applicable, and any other entities whose approval is required in order to authorize execution of the DB Documents.]

[This letter is provided to you pursuant to Section 6.2.1 of the Instructions to Proposers of that certain Request for Proposals issued by GDOT on January 17, 2020, as amended.]

In giving this opinion, we have examined ____________________________________. We have also considered such questions of law and we have examined such documents and instruments and certificates of public officials and individuals who participated in the procurement process as we have deemed necessary or advisable. [if a certificate is used/obtained from Design-Build Team, such certificate shall also run in favor of GDOT, and shall be attached to the opinion]

In giving this opinion, we have assumed that all items submitted to us or reviewed by us are genuine, accurate and complete, and if not originals, are true and correct copies of originals, and that all signatures on such items are genuine.

Subject to the foregoing, we are of the opinion that:

1. [opinion regarding organization/formation and existence of the Design-Build Team and that the Design-Build Team has corporate power to own its properties and assets, carry on its business, enter into the DBA and to perform its obligations under the DBA] [if Design-Build Team is a partnership/joint venture, these opinions are also required for each of its joint venture members and general partners]
2. [opinion regarding good standing and qualification to do business in the state of Georgia for Design-Build Team] [if Design-Build Team is a partnership/joint venture, these opinions are also required for each of its joint venture members and general partners]

3. [opinion that the DBA has been duly authorized by all necessary corporate action on the part of Design-Build Team and the DBA has been duly executed and delivered by Design-Build Team] [if Design-Build Team is a partnership/joint venture, add: “and its joint venture members/general partners” after the first and second “Design-Build Team”]

4. [opinion that the DBA has been duly authorized by all necessary corporate action on the part of Design-Build Team and the DBA has been duly executed and delivered by Design-Build Team] [if Design-Build Team is a partnership/joint venture, add: “and its joint venture members/general partners” after the first and second “Design-Build Team”]

5. [opinion that all required approvals have been obtained with respect to execution, delivery and performance of the DBA; and that the DBA do not conflict with any agreements to which Design-Build Team is a party] [if Design-Build Team is a partnership/joint venture, add: “and its joint venture members/general partners are a party”] or with any orders, judgments or decrees by which Design-Build Team is bound [if Design-Build Team is a partnership/joint venture, add: “and its joint venture members/general partners are bound”]

6. [opinion that execution, delivery and performance of all obligations by Design-Build Team under the DBA do not conflict with, and are authorized by, the articles of incorporation and bylaws of Design-Build Team] [if Design-Build Team is a partnership, replace “articles of incorporation and bylaws” with “partnership agreement and (if applicable) certificate of limited partnership”; if Design-Build Team is a joint venture, replace “articles of incorporation and bylaws” with “joint venture agreement”; if Design-Build Team is a limited liability company, replace “articles of incorporation and bylaws” with “operating agreement and certificate of formation”]

7. [opinion that execution and delivery by Design-Build Team of the DBA do not, and Design-Build Team’s performance of its obligations under the DBA will not, violate any current statute, rule or regulation applicable to Design-Build Team or to transactions of the type contemplated by the DBA]

8. [opinion that the Design-Build Team Agreements (as applicable) have been duly authorized by all necessary corporate action on the part of Design-Build Team and such agreements have been duly executed and delivered by Design-Build Team] [if Design-Build Team is a partnership/joint venture, add: “and its joint venture members/general partners” after the first and second “Design-Build Team”]

9. [opinion that the Design-Build Team Agreements constitute legal, valid and binding obligations of Design-Build Team enforceable against Design-Build Team in accordance with their terms] [if Design-Build Team is a partnership/joint venture, add: “and its joint venture members/general partners” after the second “Design-Build Team”]
FORM T

Drug Free Workplace

STATE OF _______________________

)SS:

COUNTY OF ______________________

Each of the undersigned, being first duly sworn, deposes and says that:

__________ is the __________ of __________ and __________ is the __________ of __________, which entity(ies) are the __________ of __________, the entity making the foregoing Proposal.

The undersigned certifies that the provisions of Code Sections 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the "Drug-free Workplace Act", have been complied with in full.

The undersigned further certifies that:

(1) A drug-free workplace will be provided for the Contractor's employees during the performance of the Contract; and

(2) Each Contractor who hires a Subcontractor to work in a drug-free workplace shall secure from that Subcontractor the following written certification:

"As part of the subcontracting agreement with (Contractor's name)________,_______ (Subcontractor's name)_______________ certifies to the Contractor that a drug free workplace will be provided for the Subcontractor's employees during the performance of this Contract pursuant to paragraph (7) of subsection (b) of Code Section 50-24-3."

Also, the undersigned further certifies that he will not engage in the unlawful manufacture, sale distribution, dispensation, possession, or use of a controlled substance or marijuana during the performance of the Contract.

[signature page follows]
(Signature)  
(Name Printed)  
(Title)  
Subscribed and sworn to before me this ___ day of _____, 20__.  

Notary Public in and for said County and State  

[Seal]  
My commission expires: __________________________.  

[Proposers shall duplicate or modify this form as necessary so that it accurately describes the entity making the Proposal and so that it is signed on behalf of all partners, members, joint venture members, Participating Members and Major Non-Participating Members.]
FORM U

Certification of Compliance with the State of Georgia’s Sexual Harassment Prevention Policy

The State of Georgia promotes respect and dignity and does not tolerate sexual harassment in the workplace. The State is committed to providing a workplace and environment free from sexual harassment for its employees and for all persons who interact with state government. All State of Georgia employees are expected and required to interact with all persons including other employees, contractors, and customers in a professional manner that contributes to a respectful work environment free from sexual harassment. Furthermore, the State of Georgia maintains an expectation that its contractors and their employees and subcontractors will interact with entities of the State of Georgia, their customers, and other contractors of the State in a professional manner that contributes to a respectful work environment free from sexual harassment.

Pursuant to the State of Georgia’s Statewide Sexual Harassment Prevention Policy (the “Policy”), all contractors who are regularly on State premises or who regularly interact with State personnel must complete sexual harassment prevention training on an annual basis.

A contractor, including its employees and subcontractors, who have violated the Policy, including but not limited to engaging in sexual harassment and/or retaliation may be subject to appropriate corrective action. Such action may include, but is not limited to, notification to the employer, removal from State premises, restricted access to State premises and/or personnel, termination of contract, and/or other corrective action(s) deemed necessary by the State.

(i) If Contractor is an individual who is regularly on State premises or who will regularly interact with State personnel, Contractor certifies that:

(a) Contractor has received, reviewed, and agreed to comply with the State of Georgia’s Statewide Sexual Harassment Prevention Policy located at http://doas.ga.gov/human-resources-administration/board-rules-policy-and-compliance/jointly-issued-statewide-policies/sexual-harassment-prevention-policy;

(b) Contractor has completed sexual harassment prevention training in the last year; or will complete the Georgia Department of Administrative Services’ sexual harassment prevention training located at http://doas.ga.gov/human-resources-administration/sexual-harassment-prevention/hr-professionals/employee-training (scroll down to section for entities without a LMS section) or this direct link
https://www.youtube.com/embed/NjVt0DDnc2s?rel=0 prior to accessing State premises and prior to interacting with State employees; and on an annual basis thereafter; and,

(c) Upon request by the State, Contractor will provide documentation substantiating the completion of sexual harassment training.

(ii) If Contractor has employees and subcontractors that are regularly on State premises or who will regularly interact with State personnel, Contractor certifies that:

(a) Contractor will ensure that such employees and subcontractors have received, reviewed, and agreed to comply with the State of Georgia’s Statewide Sexual Harassment Prevention Policy located at [http://doas.ga.gov/human-resources-administration/board-rules-policy-and-compliance/jointly-issued-statewide-policies/sexual-harassment-prevention-policy](http://doas.ga.gov/human-resources-administration/board-rules-policy-and-compliance/jointly-issued-statewide-policies/sexual-harassment-prevention-policy);

(b) Contractor has provided sexual harassment prevention training in the last year to such employees and subcontractors and will continue to do so on an annual basis; or Contractor will ensure that such employees and subcontractors complete the Georgia Department of Administrative Services’ sexual harassment prevention training located at [http://doas.ga.gov/human-resources-administration/sexual-harassment-prevention/hr-professionals/employee-training](http://doas.ga.gov/human-resources-administration/sexual-harassment-prevention/hr-professionals/employee-training) (scroll down to section for entities without a LMS section) or this direct link [https://www.youtube.com/embed/NjVt0DDnc2s?rel=0](https://www.youtube.com/embed/NjVt0DDnc2s?rel=0) prior to accessing State premises and prior to interacting with State employees; and on an annual basis thereafter; and

(c) Upon request of the State of the Georgia Department of Transportation, Contractor will provide documentation substantiating such employees and subcontractors’ acknowledgment of the State of Georgia’s Statewide Sexual Harassment Prevention Policy and annual completion of sexual harassment prevention training.

Date: _________________________________________

Proposer: _______________________________________

Signature: _______________________________________

Title: __________________________________________
GEORGIA DEPARTMENT OF TRANSPORTATION
DESIGN-BUILD AGREEMENT
FOR
THE I-85 WIDENING, NORTH OF SR 53 TO NORTH OF SR 11/US 129 PROJECT
PI No. 0013545

Dated Advertisement: January 17, 2020

Amendment 1 Advertised: February 26, 2020

Amendment 2 Advertised: March 27, 2020

Amendment 3 Advertised: April 8, 2020

Letting Date: May 08, 2020

Between
Georgia Department of Transportation,
State of Georgia

and

__________________________________
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VOLUMES

Volume 1  Design-Build Agreement
Volume 2  Technical Provisions for Design-Build Agreement
DESIGN-BUILD AGREEMENT
I-85 WIDENING, NORTH OF SR 53 TO NORTH OF SR 11/US 129 PROJECT

This Design-Build Agreement for the I-85 Widening North of SR 53 to North of SR 11/US 129 Project (this “Agreement”, or “DB Agreement”, or the “DBA”) is entered into and effective as of [Date] by and between the Georgia Department of Transportation (“GDOT”), an agency of the State of Georgia, and _____________________, a ______________________ [Include if JV] [include as follows if a JV: and jointly and severally, each of (insert company name), a (insert state) limited liability company and (insert company name), a (insert state) corporation, such joint venture doing business as (insert joint venture name)] (“DB Team”).

R E C I T A L S

A. Pursuant to Section 32-2-81 (c) of the Official Code of Georgia Annotated (the “Code”), GDOT is authorized to “combine any or all of the environmental services, utility relocation services, right of way services, design services, and construction phases of a public road or other transportation purpose project into a single contract using a design-build procedure.”

B. Pursuant to Section 32-2-81 of the Code, “the term ‘design-build procedure’” means a method of contracting under which the Department contracts with another party for the party to both design and build the structures, facilities, systems, and other items specified in the contract.” GDOT “may use the design-build procedure for buildings, bridges and approaches, rail corridors, technology deployments, and limited or controlled access projects or projects that may be constructed within existing rights of way where the scope of work can be clearly defined or when a significant savings in project delivery time can be attained.”

C. Pursuant to the provisions of the Code and Chapter 672-18 of the Rules of the State Department of Transportation (the “Rules”), GDOT issued a Request for Qualifications (“RFQ”) on November 1, 2019, as amended, requesting submittals of a Statement of Qualifications (“SOQ”) from respondents desiring to develop the I-85 Widening North of SR 53 to North of SR 11/US 129 Project (the “Project”) through a Design-Build Agreement.

D. GDOT received four responsive SOQs by December 12, 2019, and subsequently shortlisted or qualified four responsive Proposers.

E. On January 17, 2020, GDOT issued to the shortlisted or qualified Proposers an RFP with respect to the Project.

F. On [Date], GDOT received responses to the RFP, as amended, including the response of DB Team (the “Proposal”).

G. As part of the RFP, GDOT required that shortlisted or qualified Proposers commit to entering into an Agreement with GDOT for the design and construction of the Project.

H. GDOT evaluated and determined the DB Team was the Proposer which best met the selection criteria contained in the RFP.

NOW, THEREFORE, in consideration of the Work to be performed by DB Team, and DB Team’s obligations with respect thereto, the foregoing premises and the covenants and agreements set forth herein, the Parties hereby agree as follows:
Article 1  DEFINITIONS; DB DOCUMENTS; ORDER OF PRECEDENCE; PRINCIPAL PROJECT DOCUMENTS

1.1  Acronyms and Definitions

Acronyms and definitions for certain terms used in this Agreement and the other DB Documents are contained in Exhibit 1 (Acronyms and Definitions). Other definitions may be identified within the text of the DB Documents.

1.2  DB Documents; Order of Precedence

Each of the DB Documents is an essential part of the agreement between the Parties. The DB Documents are intended to be complementary and to be read together with this Agreement as a complete agreement. Each of the DB Documents (other than this Agreement) is hereby expressly incorporated herein by reference.

1.2.1  Subject to Article 1.2.2, in the event of any conflict, ambiguity or inconsistency among the DB Documents, the order of precedence, from highest to lowest, shall be as follows:

1.2.1.1  Supplemental Agreements, Agreement amendments, and all exhibits, riders, and attachments thereto;

1.2.1.2  The Agreement (also referred to as Volume 1) and all exhibits thereto other than Exhibit 2 (Key Personnel and Other Proposal Commitments), Exhibit 3 (Approved ATCs), and Exhibit 5 (Proposal SOV);

1.2.1.3  Exhibit 2 (Key Personnel and Other Proposal Commitments), Exhibit 3 (Approved ATCs), and Exhibit 5 (Proposal SOV);

1.2.1.4  Volume 2 “Technical Provisions for Design-Build Agreement” amendments, and all exhibits and attachments to such amendments;

1.2.1.5  Volume 2 “Technical Provisions for Design-Build Agreement”, and all exhibits and attachments to the Technical Provisions;

1.2.1.6  Volume 2, Attachment 3-1 “Manuals” (Technical Documents) amendments; provided that GDOT in its sole discretion may designate that such amendments or portions thereof take precedence over the Technical Provisions to the extent provided in Article 7.2.5;

1.2.1.7  Volume 2, Attachment 3-1 “Manuals” (Technical Documents);

1.2.1.8  The DB Team’s Proposal, including DB Team’s Schematic Plan of Project and related Early Portions of the Work; provided that certain provisions therein shall supersede the specified provisions of the other DB Documents.

1.2.2  If the Proposal, including DB Team’s Schematic Plan of Project, includes statements, offers, terms, concepts or designs that can reasonably be interpreted as offers to provide higher quality items than otherwise required by the other
DB Documents or to perform services or meet standards in addition to or better than those otherwise required, or otherwise contains terms or designs which are more advantageous to GDOT than the requirements of the other DB Documents, as reasonably determined in its sole discretion by GDOT, then DB Team’s obligations hereunder shall include compliance with all such statements, offers, terms, concepts and designs, which shall have the priority of Agreement amendments (Article 1.2.1.1) and Technical Provisions amendments (Article 1.2.1.4), as applicable.

1.2.3 If the DB Documents contain differing provisions on the same subject matter, the provisions that establish the higher quality manner or method of performing the Work or use more stringent standards will prevail. Additional details in a lower priority DB Document shall be given effect except to the extent they irreconcilably conflict, as determined at GDOT’s sole discretion, with requirements, provisions and practices contained in the higher priority DB Document.

1.2.4 Where there is an irreconcilable conflict among any standards, criteria, requirements, conditions, procedures, specifications or other provisions applicable to the Project set forth in one or more manual(s) or publication(s) referenced within a DB Document or set of DB Documents with the same order of priority (including within documents referenced therein), the standard, criterion, requirement, condition, procedure, specification or other provision offering higher quality or better performance will apply, unless GDOT in its sole discretion approves otherwise in writing. If there is an irreconcilable conflict between manuals or publications referenced in DB Document of differing priorities, the order of precedence set forth in Article 1.2.1 will apply. If either Party becomes aware of any such conflict, it shall promptly notify the other party of the conflict in writing. If the DB Team notifies GDOT of a potential conflict, GDOT shall determine if a conflict does exist and if the order of precedence does not determine which takes precedence, GDOT shall promptly issue a written determination respecting which of the conflicting provisions is to be applied.

1.3 Construction and Interpretation of the DB Documents

1.3.1 The headers or captions of the Articles of this Agreement and Sections in the other DB Documents are for convenience only and shall not be deemed part of this Agreement or the DB Documents or considered in construing this Agreement or the DB Documents.

1.3.2 The language in all parts of the DB Documents shall in all cases be construed simply, as a whole and in accordance with its fair meaning and not strictly for or against any Party. The Parties hereto acknowledge and agree that the DB Documents are the product of an extensive and thorough, arm’s length exchange of ideas, questions, answers, information and drafts during the Proposal preparation process, that each Party has been given the opportunity to independently review the DB Documents with legal counsel, and that each Party has the requisite experience and sophistication to negotiate, understand, interpret and agree to the particular language of the provisions of the DB Documents. Accordingly, in the event of an ambiguity in or Dispute regarding the interpretation of the DB Documents, the DB Documents shall not be interpreted or construed against the Party preparing it, and instead other rules of interpretation and construction shall be utilized. GDOT’s final answers to the questions posed during the Proposal preparation process for this Agreement shall in no event be
1.3.3 Reserved

1.3.4 All terms defined in the DB Documents shall be deemed to have the same meanings in all riders, exhibits, addenda, attachments or other documents affixed to or expressly incorporated by reference in this Agreement unless the context thereof clearly requires the contrary.

1.3.5 Unless otherwise stated in this Agreement or the other DB Documents, words that have well-known technical or construction industry meanings are used in this Agreement or the other DB Documents in accordance with such recognized meaning.

1.3.6 Wherever the word “including,” “includes” or “include” is used in the DB Documents, it shall be deemed to be followed by the words “without limitation”.

1.3.7 Wherever reference is made in the DB Documents to a particular Governmental Entity, it includes any public agency succeeding to the powers and authority of such Governmental Entity.

1.3.8 As used in this Agreement and the other DB Documents and as the context may require, the singular includes the plural and vice versa, and the masculine gender includes the feminine and vice versa.

1.4 Reserved

1.5 Reference Information Documents

1.5.1 DB Team acknowledges that GDOT has provided and disclosed to DB Team the Reference Information Documents (“RIDs”). The RIDs are not mandatory or binding on DB Team. DB Team is not entitled to rely on the RIDs as presenting design, engineering, operating or maintenance solutions or other direction, means or methods for complying with the requirements of the DB Documents, Governmental Approvals or Law.

1.5.2 Except as expressly set forth herein, DB Team acknowledges that GDOT neither represents nor warrants that the information contained in the RIDs is complete or accurate or that such information is in conformity with the requirements of the DB Documents, Governmental Approvals or Laws, and GDOT is neither responsible or liable in any respect for any causes of action, claims or Losses whatsoever suffered by DB Team or any DB Team-Related Entity by reason of any use of information contained in, or any action or forbearance in reliance on, the RIDs.

1.6 Errata to the GDOT Standard Specifications

In interpreting standards, policies and specifications referenced in the latest edition of the GDOT Standard Specifications, Construction of Transportation Systems, as well as the Manuals listed in Volume 2, Attachment 3-1 “Manuals” (Technical Documents) amendments, the following apply:
(a) References to the “Department” shall mean GDOT.

(b) References to the “Contractor” shall mean the DB Team.

(c) References to “Resident Engineer” or “Engineer” in the context of the provider of compliance judgment may mean the Design Quality Assurance Manager or Engineer of Record, as applicable, or it may mean a GDOT representative, or any combination thereof, depending on the context, and as determined by GDOT in its sole discretion and without recourse for the DB Team.

(d) References to the “Contract” shall mean the DB Documents.

(e) References to “plan(s)” shall mean the DB Documents.

(f) References to “The Work” shall mean the Work.

(g) Cross-references to measurement and payment provisions contained in the referenced standards, policies and specifications shall be deemed to refer to the measurement and payment provisions contained in the DB Documents.

(h) Any conflicts, ambiguities, or lack of clarity in regard to items included in the provisions, terms, or definitions used will be interpreted and defined by GDOT in its sole discretion. The DB Team shall not take advantage of any apparent conflict, omission, ambiguity, inconsistency, inaccuracy, deficiency, or inadequacy related to the application of a requirement, action to be taken, or the definition of roles and responsibilities in the execution of the Work. Should it appear that any definition of roles and responsibilities is contrary to the philosophy of those established by the Agreement, it is the responsibility of the DB Team to request a determination by GDOT related to the respective roles and responsibilities of the DB Team and GDOT.

Article 2  GRANT OF AUTHORITY AND RIGHT OF WAY

2.1 Grant of Authority for Undertaking

2.1.1 GDOT hereby grants to DB Team the revocable right, and DB Team accepts the obligation, to design and construct (including any maintenance obligations during such period as required pursuant to the DB Documents) the Project in accordance with the requirements of this Agreement and the other DB Documents.

2.2 Right of Way; Construction Easement; Ownership

2.2.1 The Project shall be constructed on and within the property as identified in the NEPA Approval and any amendment thereto (the “Property”). GDOT shall provide DB Team with access rights to the Property, together with the Existing Right of Way as set forth in this Article 2.2 (Right of Way; Construction Easement; Ownership).

2.2.1.1 Reserved

2.2.1.2 GDOT reserves the right to enter upon, possess, control and utilize the Property with or without payment of compensation to DB Team in accordance with this Agreement.
2.2.1.3 GDOT has granted, and has further reserved the right to grant, to other parties, utility and other permits and easements and modifications thereto and rights of use to the Property subject to the limitations of the DB Documents.

2.2.2 Existing Right of Way, State Proposed/State Acquired Right of Way

2.2.2.1 Upon the terms and conditions of this Agreement, including as set forth in this Article 2.2 (Right of Way; Construction Easement; Ownership), and subject to the terms and conditions of the DB Documents, as of the Effective Date, GDOT shall and does, subject to and upon issuance of NTP 1:

(a) grant to DB Team a non-exclusive right of access, ingress and egress (and the right to grant to DB Team-Related Entities a non-exclusive right of access, ingress and egress) to all real property comprising the Existing Right of Way subject to the exclusions and reservations set forth in this Agreement, in accordance with the terms described in the DB Documents.

2.2.2.2 DB Team represents that it has reviewed the Existing Right of Way and confirmed that the access rights to the property and timing for the grant of such rights as identified therein are sufficient and complete so as to allow DB Team access to all areas of the Property as required for the performance and completion of the Work.

2.2.3 Reserved

2.2.4 DB Team Proposed/DB Team Acquired Right of Way

2.2.4.1 DB Team is responsible for the acquisition of any DB Team Proposed/DB Team Acquired Right of Way. DB Team shall give written notice to GDOT, setting forth with specificity the legal description of any DB Team Proposed/DB Team Acquired Right of Way, within ten days of DB Team’s determination of such need, including whether or not DB Team requires assistance from GDOT with the acquisition of such DB Team Proposed/DB Team Acquired Right of Way.

2.2.4.2 If after reasonable effort the DB Team is unable to acquire the DB Team Proposed/DB Team Acquired Right of Way, the DB Team may request, GDOT will consider and if in agreement GDOT will undertake and complete the acquisition of DB Team Proposed/DB Team Acquired Right of Way, subject to this Article 2.2.4 (DB Team Proposed/DB Team Acquired Right of Way), Volume 2, Section 7 (ROW – Additional Properties), and all applicable Laws relating to such acquisition, including the Uniform Act.

2.2.4.3 Except as provided in this Article 2.2.4 (DB Team Proposed/DB Team Acquired Right of Way), DB Team shall be responsible for all costs, expenses, and delays associated with acquiring all DB Team Proposed/DB Team Acquired Right of Way under this Agreement, including (a) the cost of acquisition services and document preparation, (b) the cost of condemnation proceedings required by the Attorney General, through jury trials and appeals, including
attorneys’ and expert witness fees, and all fees and expenses for exhibits, transcripts, photos and other documents and materials production, (c) the purchase prices, costs to cure, court awards or judgments, for all parcels required for the Project or the Work, (d) the cost of permanent or temporary acquisition of leases, easement and other interests in real property, including for drainage, temporary work space, lay down areas, material storage areas, earthwork borrow sites, and any other convenience of DB Team, (e) the cost of permitting, (f) closing costs associated with parcel purchases, in accordance with the Uniform Act and GDOT policies, and (g) relocation assistance payments and costs, in accordance with the Uniform Act. If GDOT incurs any such costs and expenses on DB Team’s behalf, GDOT may submit any invoices for such costs and expenses to DB Team, in which case DB Team shall pay the invoices within 30 days of DB Team’s receipt of such invoices. As a condition precedent to GDOT exercising its condemnation powers and the Attorney General initiating any condemnation proceedings with respect to a parcel, DB Team shall pay to GDOT the estimated amount of the costs of the condemnation proceedings, including the required monetary court deposit associated with such parcel and estimated attorneys’ fees. If GDOT pays any such costs and expenses on DB Team’s behalf, DB Team shall reimburse GDOT within 30 days of DB Team’s receipt of an invoice therefor. Other than excess amounts, if any, remaining after such condemnation proceedings, which shall be returned to DB Team, DB Team shall not be entitled to payment or reimbursement for any costs or expenses as set forth in this Article 2.2.4 (DB Team Proposed/DB Team Acquired Right of Way), nor shall such costs or expenses be included on account of any Compensation Event.

Article 3 CONTRACT TIME

3.1 Term of Agreement

This Agreement shall remain in effect until Final Acceptance, subject to the survival of all such obligations as expressly provided herein, including without limitation, any warranty periods (the “Term”); provided that this Agreement shall be subject to earlier termination in accordance with the terms of this Agreement and the DB Documents.

3.2 Project Schedule

3.2.1 As a material consideration for entering into this Agreement, DB Team hereby commits, and GDOT is relying upon DB Team’s commitment, to develop, design and fully construct the Project in accordance with the milestones and time periods set forth in this Agreement and the other DB Documents, including without limitation, in the Technical Provisions, the Project Schedule and Completion Deadlines, including Interim Completion Deadlines, subject only to delays caused by Relief Events specifically provided hereunder.

3.2.2 The time limitations set forth for DB Team’s performance of its covenants and obligations as required pursuant to the DB Documents, including without limitation performance of the Work as required pursuant to the Completion Deadlines, including Interim Completion Deadlines, and Project Schedule, are of the essence, and except where this Agreement expressly provides for extension of time due to a Relief Event or Compensation Event, DB Team waives any right at law or in equity to tender or
complete performance beyond the applicable time period, or to require GDOT to accept such performance. All references to days shall mean Calendar Days unless otherwise specified.

3.2.3 DB Team shall achieve the Interim Completion Date of each Early Portion of the Work on or before each of the applicable Interim Completion Deadlines, Substantial Completion on or before the Substantial Completion Deadline and Final Acceptance on or before the Final Acceptance Deadline, time being of the essence.

3.2.4 DB Team hereby represents and warrants that the Project Schedule is in the form described in the Technical Provisions, has been developed in accordance with Volume 2, Section 2.5 (Project Schedule Requirements), and is consistent with the Milestone Deadlines set forth in Exhibit 9 (Milestone Deadlines) to this Agreement. DB Team shall use the Proposal Schedule as a foundation to prepare the Baseline Project Schedule for GDOT’s review and approval, as set forth in Volume 2, Section 2.5. The Parties shall use the Proposal Schedule for planning and monitoring the progress of the Work until such time that the Baseline Project Schedule is approved by GDOT. The proposed Baseline Project Schedule shall be consistent with the Proposal Schedule and Milestone Deadlines except to the extent adjustments are allowed as provided in the DB Documents and as approved by GDOT.

3.2.5 All Float contained in the Project Schedule shall be considered a shared resource among GDOT and the DB Team, available to any or all such parties as needed to absorb delay caused to the Critical Path components as set forth in the Project Schedule or Milestone Deadlines, whether on account of Relief Events or other events of delay not constituting Relief Events. All Float shall be shown as such in the Project Schedule on each affected schedule path. GDOT shall have the right to examine the identification of (or failure to identify) Float on the Project Schedule in determining whether to approve or accept the Project Schedule. Once identified, DB Team shall monitor and account for Float in accordance with Critical Path methodology.

3.3 Contract Time, Date of Commencement, and Notice to Proceed

3.3.1 DB Team’s time period for completion of the Work is the period from the day after issuance of NTP 1 through the Final Acceptance Date, as may be adjusted for any Relief Event as expressly provided in the Agreement (the “Contract Time”). All Work shall be performed in accordance with the Milestone Deadlines attached as Exhibit 9 (Milestone Deadlines).

3.3.1.1 GDOT anticipates issuing NTP 1 promptly following the Effective Date, and shall in any case provide for issuance of NTP 1 within 30 days from DB Team’s satisfaction of the conditions for execution of the Agreement. Issuance of NTP 1 authorizes DB Team to commence preliminary design activities in accordance with 23 CFR § 636.103. Prior to completion of the Environmental Documents review process, any such preliminary engineering and other activities and analyses are at the DB Team’s sole risk and shall not materially affect the objective consideration of alternatives in the Environmental Documents review process. Preliminary design activities shall be completed in accordance with the Management Plans, the Technical Provisions, and other activities anticipated to be performed after NTP 1, including satisfying the conditions to issuance of NTP 3 under Article 3.3.1.3.
3.3.1.2 Issuance of NTP 2 authorizes the DB Team to perform all NTP 1 activities, Final Design activities, and any other activities required for start of the Construction Work in accordance with 23 CFR § 636.103. NTP 2 will be issued once the Environmental Documents are approved, or with NTP 1 if the Environmental Documents have been approved by the Agreement execution date.

3.3.1.3 Issuance of NTP 3, also referred to as Released for Construction (“RFC”), authorizes DB Team to perform all other Work and activities pertaining to the Project, subject to conforming RFC Plans as may be related to commencement of any Element of the Construction Work. DB Team may not proceed to commence any construction activity with respect to the Project except as authorized pursuant to an RFC. An RFC may be issued for the entire Project or any Construction Phase of the project. GDOT anticipates issuing NTP 3 after GDOT’s issuance of Right of Way certification and within five Business Days from DB Team’s satisfaction of the following conditions:

(a) Submittal by DB Team to GDOT and acceptance by GDOT of the Quality Management Plan in accordance with Article 9 (Management Systems and Oversight) of this Agreement and Volume 2, Section 2.3 (Quality Management Requirements);

(b) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Safety Plan under Volume 2, Section 2.4 (Safety and Security);

(c) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Released for Construction Plans for the phases of the Project under Volume 2, Section 3 (Design and Submittals);

(d) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s proposed Schedule of Values under Volume 2, Section 2.6 (Payments Requests and Payment);

(e) Submittal by DB Team to GDOT and acceptance by GDOT of the DB Team’s proposed Baseline Project Schedule under Volume 2, Section 2.5 (Project Schedule Requirements);

(f) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Traffic Control Plan under Volume 2, Section 18.3 (Design Requirements) for the approved Project Phase;

(g) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Transportation Management Plan under Volume 2, Section 18.2 (Administrative Requirements);

(h) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Construction Phasing and Staging Plan of Project, as applicable, under Volume 2, Section 2.2.4 (Construction Phasing and Staging Plan);
(i) Reserved;

(j) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Comprehensive Environmental Protection Plan (CEPP) under Volume 2, Section 4.3 (Environmental Approvals);

(k) Reserved;

(l) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Demolition and Abandonment Plan, as applicable, under Volume 2, Section 10.2 (Administrative Requirements);

(m) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team’s Maintenance Management Plan under Volume 2, Section 19.3 (Design Requirements);

(n) Evidence by DB Team of all required Government Approvals as required under Article 6.2 (Governmental Approvals and Third-Party Agreements) for the approved Project Phase;

(o) Reserved;

(p) Submittal by DB Team to GDOT and acceptance by GDOT of all Standard Utility Agreements, Utility Encroachment Permits, Emergency Utility Response Plan, Utility Relocation Plans, and/or Certification of “No-Conflict” for the approved Project Phase, if required, under Article 7.5 (Utility Adjustments) of the Agreement and Volume 2, Section 6 (Utility Adjustments);

(q) Submittal by DB Team to GDOT of qualified Worksite Utility Control Supervisor (WUCS), Worksite Erosion Control Supervisor (WECS), and Worksite Traffic Control Supervisor (WTCS); and

(r) Submittal by DB Team to GDOT and acceptance by GDOT of all other Management Plans and other submittals required by the DB Documents to be submitted and/or accepted or approved prior to NTP 3 or start of the Construction Work for that Element of the Project.

3.3.1.4 Notwithstanding any provision to the contrary in this Article 3.3 (Contract Time, Date of Commencement, and Notice to Proceed), DB Team shall not perform, nor be obligated to perform, any portion of the Work prior to issuance of approval of the Environmental Documents, except for Work authorized under 23 CFR 636.103, Preliminary Work.

3.3.2 DB Team shall satisfy all conditions prior to issuance of NTP 3. DB Team shall satisfy all conditions to commencement of the Construction Work and commence such Construction Work with diligence and continuity, by the deadlines therefor set forth in Milestone Deadlines attached as Exhibit 9 (Milestone Deadlines), and any adjustments set forth therein, all as the same may be extended pursuant to this Agreement.
3.3.3 Prior to the start of any Construction Work, the DB Team shall satisfy conditions set forth in Volume 2, Section 2 (Project Management) and Volume 2, Section 3 (Design and Submittals).

**Article 4 CONTROL OF THE WORK**

4.1 DB Team Quality Management

The DB Team shall perform the quality control, that is all operation techniques and activities performed or conducted to fulfill the contract requirements, and quality management necessary to meet its obligations under the DB Documents and in accordance with GDOT Standard Specification 105.

4.2 Reserved

4.3 Reserved

4.4 Limitations on DB Team’s Right to Rely

4.4.1 No review, comment, objection, rejection, acceptance, disapproval, certification (including certificates of Substantial Completion and Final Acceptance), concurrence, monitoring, testing, verification sampling, inspection, spot checking, auditing or other oversight by or on behalf of GDOT or their representatives or agents, or lack thereof by GDOT, or their representatives or agents, shall constitute acceptance of materials or Work or waiver of any legal or equitable right under the DB Documents, at Law, or in equity. GDOT shall be entitled to remedies for Nonconforming Work and to identify additional Work which must be done to bring the Work and Project into compliance with requirements of the DB Documents, regardless of whether previous review, comment, objection, rejection, acceptance, disapproval, certification, concurrence, monitoring, testing, inspection, spot checking, auditing or other oversight were conducted or given by GDOT, or their representatives or agents. Regardless of any such activity or failure to conduct any such activity by GDOT, or its representatives or agents, DB Team at all times shall have an independent duty and obligation to fulfill the requirements of the DB Documents. DB Team agrees and acknowledges that any such activity or failure to conduct any such activity by GDOT, or their representatives or agents:

(a) is solely for the benefit and protection of GDOT;

(b) does not relieve DB Team of its responsibility for the selection and the competent performance of all DB Team-Related Entities;

(c) does not create or impose upon GDOT any duty or obligation toward DB Team to cause it to fulfill the requirements of the DB Documents;

(d) shall not be deemed or construed as any kind of warranty, express or implied, by GDOT;
(e) may not be relied upon by DB Team or used as evidence in determining whether DB Team has fulfilled the requirements of the DB Documents;

(f) may not be asserted by DB Team against GDOT as a defense, legal or equitable, to, or as a waiver of or relief from, DB Team’s obligation to fulfill the requirements of the DB Documents; and

(g) shall not be deemed or construed as any assumption of risk by GDOT as to the quality of Work or materials.

4.4.2 DB Team shall not be relieved or entitled to reduction of its obligations to perform the Work in accordance with the DB Documents, or any of its other liabilities and obligations, including its indemnity obligations, as the result of any activity identified in Article 4.4.1 or failure to conduct any such activity by GDOT. Such activity by GDOT shall not relieve DB Team from liability for, and responsibility to cure and correct Nonconforming Work or DB Team Defaults.

4.4.3 To the maximum extent permitted by Law, DB Team hereby releases and discharges GDOT from any and all duty and obligation to cause DB Team’s Work or the Project to satisfy the standards and requirements of the DB Documents. GDOT is an intended third-party beneficiary of this Article 4.4 (Limitations on DB Team’s Right to Rely).

4.4.4 Notwithstanding the provisions of Articles 4.4.1, 4.4.2, and 4.4.3:

(a) DB Team shall be entitled to rely on written approvals, acceptances, lack of responses from GDOT (i) for the limited purpose of establishing that the approval, acceptance or lack of response occurred or (ii) that are within its sole discretion, but only to the extent that DB Team is prejudiced by a subsequent decision of such party to rescind such approval or acceptance;

(b) DB Team shall be entitled to rely on the certificates of Substantial Completion and Final Acceptance from GDOT for the limited purpose of establishing that Substantial Completion and Final Acceptance, as applicable, have occurred, and the respective dates thereof;

(c) GDOT is not relieved from any liability arising out of a knowing and intentional material misrepresentation under any written statement GDOT delivers to DB Team; and

(d) GDOT is not relieved from performance of its express responsibilities under the DB Documents in accordance with all standards applicable thereto.
4.5 Reserved

4.6 Oversight by GDOT for FHWA and Federal Compliance

4.6.1 GDOT shall independently have the right at all times to monitor, inspect, sample, measure, attend, observe or conduct tests and investigations, and conduct any other oversight respecting any part or aspect of the Project or the Work, to the extent necessary or advisable (a) to comply with FHWA, U.S. Army Corps of Engineers or other applicable federal agency requirements, and (b) to verify on an audit basis DB Team’s compliance with the DB Documents and Management Plans as provided in Article 22.2 (Audits).

4.6.2 DB Team acknowledges and agrees that GDOT will have the right to audit, monitor and inspect DB Team and its Contractors compliance with Good Industry Practice and its responsibilities and obligations under the DB Documents.

4.6.3 GDOT will not conduct formal prior reviews of Design Documents except to the extent necessary or advisable to comply with FHWA, U.S. Army Corps of Engineers or other applicable federal agency requirements, provided that the aforementioned shall not limit GDOT’s rights pursuant to this Agreement. FHWA and GDOT reserve the right to conduct “over-the-shoulder” reviews of Design Documents or other Submittals as they may deem necessary or appropriate, including pursuant to Article 17.3.8 (Increased Oversight, Testing, and Inspection), provided that they shall not have any obligation to conduct such reviews nor assume any responsibility for DB Team’s Work, regardless of whether or not electing to perform or performing any such “over-the-shoulder” reviews.

4.6.4 Nothing in the DB Documents shall preclude, and DB Team shall not interfere with, any review, audit or oversight of Submittals, Work or books and records that the GDOT or FHWA may desire to conduct.

4.7 Rights of Cooperation and Access; Increased Oversight

4.7.1 DB Team shall coordinate and cooperate, and require its Contractors to coordinate and cooperate, with GDOT and any such parties as provided in Article 4.6 (Oversight by GDOT for FHWA and Federal Compliance) to facilitate the full, efficient, effective and timely performance of all such monitoring, inspection, sampling, measuring, testing, reporting, auditing, and other oversight functions. DB Team shall cause its representatives to be available at all reasonable times for consultation with GDOT and such other parties as required.

4.7.2 Without limiting the foregoing and subject to GDOT complying with DB Team’s reasonable safety requirements, DB Team shall afford GDOT:

(a) safe and unrestricted access to the Project at all times,

(b) safe access during normal business hours to DB Team’s Project offices and operations buildings,

(c) safe access during normal business hours to the Project Specific Locations and
(d) unrestricted access to data respecting the Project design, construction, operations and maintenance, and the Utility Adjustment Work.

Without limiting the foregoing, DB Team shall deliver to GDOT upon request accurate and complete books, records, data and information regarding Work, the Project and the Utility Adjustment Work, in the format required by the Technical Provisions.

4.7.3 GDOT shall have the right to increase the type and level of their oversight as provided in Article 4.6 (Oversight by GDOT for FHWA and Federal Compliance) and Article 17.3.8 (Increased Oversight, Testing, and Inspection).

4.8 Limits of Responsibility for Oversight, Review, Recommendations, Inspection and Acts by GDOT

4.8.1 Although GDOT, and its representatives and agents, may consult with DB Team during the course of the Work, no such party shall have control over, charge of, or responsibility for any of the Work, including without limitation, any design or engineering thereof, or means, methods, techniques, sequences or procedures in connection therewith, nor shall any such party be responsible for DB Team’s failure to perform the Work in accordance with the requirements of the DB Documents. Any such review is not for the purpose of determining the accuracy and completeness of information or work product, all of which are DB Team’s responsibility. Any review, recommendation, acceptance, inspection, response, act or omission with respect to any Submittals, or with respect to the Project, the Work (whether Construction Work or Design Work), or the Construction Documents shall be pursuant to, and solely in furtherance of the inspection powers as set forth in O.C.G.A. § 50-21-24(8).

4.8.2 DB Team shall, at all times and notwithstanding any such acts or omissions by GDOT as provided in this Article 4 (Control of the Work) or elsewhere in this Agreement, be fully responsible for all architectural design and engineering required for the Project. DB Team expressly waives and releases (a) all claims for right of contribution against either GDOT, or its respective representatives and agents, other than for such parties’ sole negligence, arising from or related to any third-party claims, including without limitation for personal injury, death, or property damage, and (b) all claims and defenses by DB Team against either GDOT, or its respective representatives and agents in derogation of the limitations of this Article 4, including this Article 4.8 (Limits of Responsibility for Oversight, Review, Recommendations, Inspections and Acts by GDOT), and/or that any or all of such parties otherwise have, or by their acts or omissions, assumed any responsibility for, or related to, the design or construction of the Project, or any means, methods, or techniques in respect thereof. DB Team hereby further expressly waives any claim or defense the basis of which is to assert that GDOT may not delegate the responsibility for any Element of the design and construction of the Project involving public roadways, signs, or traffic controls to DB Team as provided in this Agreement.
Article 5  CONTRACT SUM, PAYMENTS, AND PUBLIC FUNDS

5.1  Payment of Contract Sum

5.1.1  GDOT shall pay DB Team the Contract Sum for Work properly performed in accordance with the DB Documents. DB Team, in consideration for all Work performed in accordance with the DB Documents, shall be entitled to receive the Contract Sum, which amount is inclusive of all fees, overhead, profit, insurance and bond premiums, labor and material costs, installations, delivery, warehouse and handling charges, duties, taxes and other assessments.

5.2  Reserved

5.3  Reserved

5.4  GDOT Monetary Obligations and Overall Limitation of Liability

5.4.1  Notwithstanding anything to the contrary in the DB Documents, in no event shall GDOT’s outstanding liability to DB Team under the DB Documents, including liability related to Compensation Events and Compensation Amounts, exceed the amount of compensation that would be payable to DB Team pursuant to a Termination for Convenience under Article 19.1 (Termination of Convenience).

5.4.2  The payment of any moneys owed by GDOT under the DB Documents, including without limitation amounts payable in connection with a termination, upon the occurrence of a GDOT Event of Default, or in any suit for monetary damages alleging breach of this Agreement by GDOT, shall be limited to funds available to GDOT for such payments.

5.4.3  Reserved

5.4.4  Reserved

Article 6  PROJECT PLANNING AND ACCEPTANCES; PROJECT ADMINISTRATION, REVIEW AND OVERSIGHT; PUBLIC INFORMATION

6.1  Preliminary Planning and Engineering Activities; Site Conditions

6.1.1  DB Team shall perform or cause to be performed all architectural and engineering activities appropriate for design and construction of the Project in accordance with Good Industry Practice and the DB Documents, which may include, subject to the scope of Work set forth in the DB Documents or as required by GDOT by Supplemental Agreement or Directive Letter:

(a)  Utility Adjustments;
(b)  technical studies and analyses;
(c)  geotechnical investigations;
(d)  right of way mapping, surveying and appraisals;
(e) Subsurface Utility Engineering (SUE) investigations and mapping;

(f) Hazardous Materials investigations; and

(g) design and construction surveys.

6.1.2 Except to the extent that DB Team is entitled to a Relief Event and/or a Compensation Event under this Agreement, DB Team shall bear the risk of any incorrect or incomplete review, examination and investigation by it of the Site or the Existing Improvements and surrounding locations, and of any incorrect or incomplete information resulting from preliminary architectural and engineering activities conducted by DB Team, GDOT, or any other Person. DB Team acknowledges and agrees that GDOT makes no warranties or representations as to any surveys, data, reports or other information provided by GDOT or other Persons concerning surface conditions and subsurface conditions, including the presence of Utilities, Hazardous Materials, contaminated groundwater, archeological, paleontological and cultural resources, and Threatened or Endangered Species, affecting the Site, the Existing Improvements, or surrounding locations. DB Team acknowledges that such information is for DB Team’s reference only and has not been verified.

6.1.3 Except to the extent that DB Team is entitled to a Relief Event and/or a Compensation Event under this Agreement, DB Team shall bear the risk of all conditions occurring on, under or at the Site and the Existing Improvements, including (a) physical conditions of an unusual nature, differing materially from those ordinarily encountered in the area, (b) changes in surface topography, (c) variations in subsurface moisture content, (d) Utility facilities, (e) the discovery at, near or on the Property of any archeological, paleontological or cultural resources, and (f) the discovery at, near or on the Property of any Threatened or Endangered Species.

6.2 Governmental Approvals and Third-Party Agreements

6.2.1 GDOT retains responsibility for obtaining all Provided Approvals based on the design schematic contained in the NEPA Approvals. GDOT shall deliver to DB Team true and complete copies of all Provided Approvals. DB Team shall obtain all other Governmental Approvals and, except to the extent the DB Documents expressly provide GDOT is responsible therefor, all third-party approvals and agreements required in connection with the Project or the Work, including any modifications, renewals and extensions of the Provided Approvals (including those required in connection with a Compensation Event). DB Team shall deliver to GDOT true and complete copies of all new or amended Governmental Approvals and third-party approvals and agreements. In no event shall GDOT be responsible or liable for any delays in obtaining Provided Approvals to the extent such delays are caused by differences between the schematic contained in the NEPA Approvals and DB Team’s Final Design, unless such differences are due to a GDOT Change.

6.2.2 Prior to submitting to a Governmental Entity any application for a Governmental Approval (or any proposed modification, renewal, extension or waiver of a Governmental Approval or provision thereof), DB Team shall submit the same, together with any supporting environmental studies and analyses, to GDOT (a) for acceptance or (b) for review and comment, as specified in Volume 2, Table 4-2 (GDOT-Led Environmental Preparation and Approval).
6.2.3 Except as expressly set forth in this Agreement to the contrary, in the event DB Team’s design differs from the schematic contained in the approved Environmental Documents upon which the Provided Approvals were based, as among GDOT and DB Team, DB Team shall support necessary actions, and shall bear all risk of delay, resulting from or arising out of any associated change in the Project location and design, including (a) conducting all necessary environmental studies and preparing all necessary Environmental Documents in compliance with applicable Environmental Laws, and (b) obtaining and complying with all necessary new Governmental Approvals (including any modifications, renewals and extensions of the Provided Approvals, and other existing Governmental Approvals). GDOT and FHWA will independently evaluate all environmental studies and documents and fulfill the other responsibilities assigned to them by 23 CFR Part 771.

6.2.4 Subject to clauses of Article 14.2 (Compensation Events) and clauses of Article 14.1 (Relief Events) and except to the extent required under the Technical Provisions, in the event DB Team is unable to obtain necessary Governmental Approvals for any design that differs from the schematics contained in the approved Environmental Documents upon which Provided Approvals were based, DB Team shall be obligated to design and construct the Project according to a design in compliance with the requirements of the Provided Approvals, and no such circumstance shall constitute a Relief Event or Compensation Event.

6.2.5 At DB Team’s request, GDOT shall reasonably assist and cooperate with DB Team in obtaining from Governmental Entities the Governmental Approvals (including any modifications, renewals and extensions of existing Governmental Approvals from Governmental Entities) required to be obtained by DB Team under the DB Documents.

6.2.5.1 GDOT and DB Team shall work jointly to establish a scope of work and budget for GDOT Recoverable Costs related to the assistance and cooperation GDOT will provide as contemplated herein, subject to any rights of DB Team in the case of a Compensation Event.

6.2.5.2 Such costs and expenses shall be subject to the limitations for GDOT Recoverable Costs provided however that, notwithstanding the limitations of subpart (a) in the definition of GDOT Recoverable Costs, such reimbursable amounts shall expressly include costs and expenses incurred to conduct further or supplemental environmental studies as a result of (i) any DB Team Proposed Right of Way, or (ii) DB Team Release(s) of Hazardous Material.

6.2.6 DB Team shall comply with all conditions imposed by and undertake all actions required by and all actions necessary to maintain in full force and effect all Governmental Approvals, including performance of all environmental mitigation measures required by the DB Documents or Governmental Approvals and including payment of mitigation credits and any other fees required for Governmental Approvals, except to the extent that responsibility for performance of such measures and payment is expressly assigned to GDOT in the DB Documents.

6.2.7 In the event that any Governmental Approvals required to be obtained by DB Team must formally be issued in GDOT’s name, DB Team shall undertake necessary efforts to obtain such approvals subject to GDOT’s reasonable cooperation.
with DB Team, as the case may be, at DB Team’s expense (except in connection with a Compensation Event), in accordance with Article 6.2.5, including execution and delivery of appropriate applications and other documentation in form accepted by GDOT. Refer to Volume 2, Section 4.2 (Administrative Requirements) for more specific provisions on applications in GDOT’s name for Environmental Approvals.

6.2.8 In the event that GDOT or FHWA must act as the lead agency and directly coordinate with a Governmental Entity in connection with obtaining Governmental Approvals which are the responsibility of DB Team, DB Team shall provide all necessary support to facilitate the approval, mitigation or compliance process. Such support may include conducting necessary field investigations, surveys, and preparation of any required reports, documents and applications.

6.2.9 DB Team shall be responsible for compliance with all applicable Laws in relation to Project Specific Locations and Additional Properties for obtaining any Environmental Approval or other Governmental Approval required in connection with Project Specific Locations.

6.2.10 DB Team shall not enter into any agreement with any Governmental Entity, Utility Owner, railroad, property owner or other third party having regulatory jurisdiction over any aspect of the Project or Work or having any property interest affected by the Project or the Work that in any way purports to obligate GDOT, or the State or an agency or department thereof, or states or implies that GDOT has an obligation, to the third party to carry out any installation, design, construction, maintenance, repair, operation, control, supervision, regulation or other activity after the end of the Term, unless GDOT otherwise accepts in writing in its sole discretion. DB Team has no power or authority to enter into any such agreement with a third party in the name or on behalf of GDOT.

6.3 Review and Oversight

6.3.1 Submittal, Review and Acceptance Terms and Procedures

6.3.1.1 This Article 6.3 (Review and Oversight) sets forth uniform terms and procedures that shall govern all Submittals pursuant to the DB Documents and component plans thereunder. In the event of any irreconcilable conflict between the provisions of this Article 6.3 and any other provisions of the DB Documents and component plans thereunder concerning submission, review and acceptance, rejection, or approval procedures, this Article 6.3 shall exclusively govern and control, except to the extent that the conflicting provision expressly states that it supersedes this Article 6.3.

6.3.2 Time Periods

6.3.2.1 Except as expressly set forth elsewhere in the DB Documents or as provided below, whenever GDOT is entitled to review and comment, or accept a Submittal, GDOT shall promptly respond within 30 days from the date it receives an accurate and complete Submittal, accuracy and completeness shall be at GDOT’s sole discretion, together with a completed transmittal form, in form to be mutually agreed upon, and all necessary information and documentation concerning the subject matter included. Any period of review by GDOT more
than 30 days, or as specifically set forth elsewhere in the DB Documents providing for a different time period, may be deemed a GDOT Caused-Delay and give rise to Relief Event, subject to the provisions and satisfying all DB Document requirements for Relief Events. The time periods set forth in the DB Documents for GDOT’s review and acceptance or approval of Submittals, as and to the extent required shall apply to and restart with all re-submittals or if additional information or documentation is required to complete a Submittal which DB Team may be required to provide.

6.3.2.2 The time periods set forth herein with respect to GDOT’s review and acceptance, rejection, or approval, or comment on Submittals shall be subject to adjustment as provided in Volume 2, Section 3 (Design and Submittals) for multiple concurrent Submittals.

6.3.2.3 All time periods for GDOT to act upon Submittals shall be extended by the period of any delay caused by any Relief Event impacting same, including as set forth in clauses of Article 14.1 (Relief Event) or otherwise as and to the extent of any delay of DB Team or any DB Team-Related Entity.

6.3.2.4 During any time that GDOT is entitled under Article 17.3.8 (Increased Oversight, Testing, and Inspection) to increase the level of its auditing, monitoring, inspection, sampling, measuring, testing and oversight of the Project, the Utility Adjustments and DB Team’s compliance with its obligations under the DB Documents, the applicable period for GDOT to act on any Submittals received during such time and not related to curing the DB Team Default(s) that instigated the Article 17.3.8 action shall automatically be extended by 14 days.

6.3.2.5 GDOT shall endeavor to reasonably accommodate a written request from DB Team for expedited action on a specific Submittal, within the practical limitations on availability of personnel appropriate for acting on the types of Submittal in question; provided DB Team sets forth in its request specific, abnormal circumstances demonstrating the need for expedited action. This provision shall not apply, however, during any time described in Articles 6.3.2.3 and Article 6.3.2.4.

6.3.3 GDOT Discretionary Acceptances

If the Submittal is one where the DB Documents indicate approval or acceptance is required from GDOT in its sole discretion or good faith discretion, then GDOT’s lack of approval, acceptance, determination, decision, or other action within the applicable time period under Article 6.3.2 (Time Periods) shall be deemed non-acceptance. If the approval is subject to good faith discretion of GDOT, then its decision shall be binding unless it is finally determined by clear and convincing evidence that such decision is determined to be arbitrary and capricious and causes delay; when so determined, it will then constitute and be treated as a GDOT-Caused Delay.
6.3.4 Other GDOT Acceptances

6.3.4.1 Whenever the DB Documents indicate that a Submittal or other matter is subject to GDOT’s approval or acceptance, and no particular standard therefor is stated, then the standard shall be reasonableness.

6.3.4.2 If the reasonableness standard applies to GDOT’s right of approval or acceptance of a Submittal, and GDOT delivers no approval or acceptance within the applicable time period under Article 6.3.2 (Time Periods), then DB Team may deliver to GDOT a written notice stating the date within which GDOT was to have decided or acted. If GDOT does not respond or act within seven days after receipt of the notice, then a delay may constitute GDOT-Caused Delay under Article 14 (Relief Events; Compensation Events), subject to the provisions and satisfying all DB Document requirements for Relief Events and Compensation Events. Regardless of the actual days of delay, the start of any GDOT-Caused Delay shall be measured from 14 days from the end of the last review period for that Submittal. DB Team hereby agrees to plan for and account for such notice periods within the Project Schedule.

6.3.4.3 If GDOT requires an approval of a Submittal, such approval is a formal conditional determination in writing by GDOT that a particular matter, Submittal, or item is good or satisfactory for the Project. Such determination may be based on requirements or commitments beyond those set forth in the DB Documents and may reflect preferences of GDOT.

6.3.5 GDOT Review and Comment

6.3.5.1 Whenever the DB Documents indicate that a Submittal or other matter is subject to GDOT’s review, comment, review and comment, disapproval or similar action not entailing a prior approval or acceptance and GDOT delivers no comments, exceptions, objections, rejections or disapprovals within the applicable time period under Article 6.3.2 (Time Periods), then DB Team may proceed thereafter at its election and risk, without prejudice to GDOT’s rights to later object, reject, or disapprove.

6.3.5.2 No such failure or delay by GDOT in delivering comments, exceptions, objections, rejections or disapprovals within the applicable time period under Article 6.3.2 (Time Periods) shall constitute a GDOT-Caused Delay, GDOT Change, Relief Event or Compensation Event.

6.3.5.3 When used in the DB Documents, the phrase “completion of the review and comment process” or similar terminology means either (a) GDOT has reviewed, provided comments, exceptions, objections, rejections or disapprovals, and all the same have been resolved, or (b) the applicable time period has passed without GDOT providing any comments, exceptions, objections, rejections or disapprovals.

6.3.6 Submittals Not Subject to Prior Review, Comment or Acceptance

Whenever the DB Documents indicate that DB Team is to deliver a Submittal to GDOT but express no requirement for GDOT review, comment, disapproval, prior acceptance or
other GDOT action, then DB Team is under no obligation to provide GDOT any period of time to review the Submittal or obtain acceptance of it before proceeding with further Work, and GDOT shall have the right, but is not obligated, to at any time review, comment on, take exception to, object to, reject or disapprove the Submittal. No failure or delay by GDOT in delivering comments, exceptions, objections, rejections or disapprovals with respect to any Submittal as set forth in this Article 6.3 (Review and Oversight) shall constitute a Relief Event or Compensation Event.

6.3.7 Resolution of GDOT Comments and Objections

6.3.7.1 If the Submittal is one not governed by Article 6.3.3 (GDOT Discretionary Acceptances) or Article 6.3.6 (Submittals Not Subject to Prior Review, Comment or Acceptance), GDOT’s exception, objection, rejection or disapproval shall be deemed reasonable, valid and binding if based on any of the following grounds:

(a) The Submittal or subject provision thereof fails to comply with any applicable covenant, condition, requirement, commitment, term, or provision of the DB Documents or Management Plans thereunder;

(b) The Submittal or subject provision thereof is not to a standard equal to or better than the requirements of Good Industry Practice;

(c) DB Team has not provided all content or information required in respect of the Submittal or subject provisions thereof, provided that GDOT assumes no duty, obligation or liability regarding completeness or correctness of any Submittal, including a Submittal that is to be delivered to a Governmental Entity as a proposed Governmental Approval, or in order to obtain, modify, amend, supplement, renew, extend, waive or carry out a Governmental Approval;

(d) Adoption of the Submittal or subject provision thereof, or of any proposed course of action thereunder, would result in a conflict with or violation of any Law or Governmental Approval; or

(e) In the case of a Submittal that is to be delivered to a Governmental Entity as a proposed Governmental Approval, or in order to obtain, modify, amend, supplement, renew, extend, waive or carry out a Governmental Approval, it proposes commitments, requirements, actions, terms or conditions that are not arrangements that GDOT offers or accepts for addressing similar circumstances affecting its own projects.

6.3.7.2 DB Team shall timely and promptly respond to all of GDOT’s comments and objections to a Submittal and, except as provided below, make modifications to the Submittal as necessary to fully reflect and resolve all such comments and objections, in accordance with the review processes set forth in this Article 6.3 (Review and Oversight). DB Team acknowledges that GDOT may provide comments and objections which reflect concerns regarding interpretation or preferences of the commenter or which otherwise do not directly relate to grounds set forth in Article 6.3.7.1. DB Team agrees to undertake reasonable
efforts to accommodate or otherwise resolve any such comments or objections through the review processes described in this Article 6.3.

6.3.7.3 If DB Team fails to notify GDOT within such time period, GDOT may deliver to DB Team a written notice stating the date by which DB Team was to have responded to GDOT’s comments and that if DB Team does not respond to those comments within five Business Days after receipt of this notice, then that failure shall constitute DB Team’s agreement to make all changes necessary to accommodate and resolve the comment or objection and full acceptance of all responsibility for such changes without right to a Relief Event or Compensation Event.

6.3.7.4 The foregoing shall in no way be deemed to obligate DB Team to incorporate any comments or resolve objections that would render the Submittal erroneous, defective or less than Good Industry Practice, except pursuant to a GDOT Change.

6.3.7.5 After GDOT receives DB Team’s explanation as to why the modifications are not required as provided in Article 6.3.7.2, Article 6.3.7.3, and Article 6.3.7.4, the Parties shall attempt in good faith to resolve the Dispute. If they are unable to resolve the Dispute, it shall be resolved according to Article 17.7 (Dispute Resolution Procedures) except (a) as provided otherwise in Article 6.3.3 (GDOT Discretionary Acceptances), and (b) if GDOT elects to issue a Directive Letter pursuant to Article 13.1 (Directive Letters) with respect to the disputed matter, the DB Team shall proceed in accordance with GDOT’s directive while retaining any claim as to the disputed matter.

Article 7 DEVELOPMENT OF THE PROJECT

7.1 General Obligations of DB Team

DB Team, in addition to performing all other requirements of the DB Documents, shall:

7.1.1 Furnish all design, engineering and other services, provide construction management and all work, including all materials, equipment, labor, and installations, and undertake all efforts necessary or appropriate (excluding only those materials, services and efforts which the DB Documents expressly specify will be undertaken by GDOT or other Persons) to construct the Project and maintain it during construction, so as to achieve Substantial Completion and Final Acceptance by the applicable Milestone Deadlines;

7.1.2 At all times provide a Project Manager approved by GDOT who:

(a) will have full responsibility for the prosecution of the Work, including Design Work and Construction Work,

(b) will act as agent and be a single point of contact in all matters on behalf of DB Team,
(c) will be present (or his/her designee approved by GDOT will be present) at the Site at all times that Design Work or Construction Work is performed, and

(d) will be available to respond to GDOT;

7.1.3 Comply with, and require that all Contractors comply with, all requirements of all applicable Laws;

7.1.4 Cooperate with GDOT and Governmental Entities with jurisdiction in all matters relating to the applicable portions of the Work, including Design Work and Construction Work for the Project, including their review, inspection and oversight of the design and construction; and

7.1.5 Use commercially reasonable efforts to mitigate delay to design and construction of the Project and mitigate damages due to delay in all circumstances, to the extent possible, including by re-sequencing, reallocating, or redeploying DB Team’s and its Contractors’ forces to other work.

7.2 Performance, Design and Construction Standards

7.2.1 DB Team shall furnish all aspects of the Design Work and all Design Documents, and shall construct the Project and perform the Construction Work as designed, free from Defects, and in accordance with (a) Good Industry Practice, (b) the requirements, terms and conditions set forth in the DB Documents, (c) the Project Schedule, (d) all Laws, (e) the requirements, terms and conditions set forth in all Governmental Approvals, and (f) the requirements of the accepted Quality Management Plan (QMP) or to be prepared thereunder, in each case taking into account the Existing Right of Way, Required Right of Way, and any Additional Property limits and other constraints affecting the Project and the Property.

7.2.2 Reserved

7.2.3 DB Team acknowledges that prior to the Effective Date it had the opportunity to identify any provisions of the Technical Provisions or Technical Documents that are erroneous or create a potentially unsafe condition, and the opportunity and duty to notify GDOT in writing of such fact and of the changes to the provision that DB Team believed were the minimum necessary to render it correct and safe. If it is reasonable or necessary to adopt changes to the Technical Provisions or Technical Documents after the Effective Date to make the provisions correct and safe, such changes shall not be grounds for a Relief Event or Compensation Event unless (a) DB Team neither knew nor had reason to know prior to the Effective Date that the provision was erroneous or created a potentially unsafe condition or (b) DB Team knew of and reported to GDOT the erroneous or potentially unsafe provision prior to the Effective Date and GDOT did not adopt reasonable and necessary changes. Except for a circumstance as set forth under (b) herein, if DB Team commences or continues any Design Work or Construction Work affected by such a change after the need for the change was discovered or suspected, or should have been discovered or suspected through the exercise of reasonable care, DB Team shall bear any additional costs associated with redoing the Work already performed. Inconsistent or conflicting provisions of the DB Documents shall not be treated as erroneous provisions under this
Article 7.2.3, but instead shall be governed by Article 1.2 (DB Documents; Order of Precedence).

7.2.4 References in the Technical Provisions or Technical Documents to manuals or other publications governing the Design Work or Construction Work prior to the Substantial Completion Date shall mean the most recent editions in effect at the date of the RFP advertisement, unless expressly provided otherwise. Any changes to the Technical Provisions and Technical Documents, including Safety Standards, respecting Design Work or Construction Work prior to the Substantial Completion Date shall be subject to the Supplemental Agreement process for a GDOT Change in accordance with Article 13 (GDOT Changes; DB Team Changes; Directive Letters). Safety Compliance changes shall be in accordance with Article 12.1 (Safety Compliance).

7.2.5 The Parties anticipate that from time to time after the Effective Date, GDOT will adopt, through revisions to existing manuals and publications or new manuals and publications, changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions, including Safety Standards, relating to Design Work and Construction Work. GDOT shall have the right to add such changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions, including Safety Standards, to Volume 2 by notice to DB Team, whereupon they shall constitute amendments, and become part, of the Technical Documents. If such changed, added or replacement Technical Documents or Safety Standards encompass matters that are addressed in the Technical Provisions or Technical Documents as of the Effective Date, they may, upon inclusion in Volume 2, replace and supersede inconsistent provisions of the Technical Provisions and Technical Documents to the extent designated by GDOT in its sole discretion. GDOT will identify the superseded provisions in its notice to DB Team. Notwithstanding the foregoing, in the absence of a GDOT Change and except as provided otherwise in Article 7.5.3 (Requirements) with respect to Adjustment Standards, if GDOT adopts the changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions, including changed, added or replacement Safety Standards, prior to the Final Acceptance Date, DB Team shall not be obligated to (but may) incorporate the same into its design and construction of the Project prior to the Final Acceptance Date.

7.3 Design Implementation and Submittals

7.3.1 DB Team, through the appropriately qualified and licensed design professionals identified in DB Team’s Key Personnel as identified in Exhibit 2 (Key Personnel and Other Proposal Commitments) and in accordance with Volume 2, Section 2 (Project Management), shall prepare designs, Plans and specifications in accordance with the DB Documents. DB Team shall cause the Engineer of Record for the Project to sign and seal all Released for Construction Documents, any revisions to the Released for Construction Documents, all design changes; and for conformance, the Record Drawings (As-Builts).

7.3.2 DB Team shall deliver to GDOT accurate and complete duplicates of all Interim Design, and Preliminary and Final Plans and Construction Documents within the time and in the form required by the Technical Provisions.
7.3.3 The Engineer of Record shall initiate or sign-off on all requests for information prior to the requests being submitted to GDOT.

7.4 Reserved

7.5 Utility Adjustments

7.5.1 DB Team’s Responsibility

7.5.1.1 DB Team is responsible for causing, in accordance with the Project Schedule, all Utility Adjustments necessary to accommodate construction, operation, maintenance and/or use of the Project. DB Team shall coordinate, monitor, and otherwise undertake the necessary efforts to cause Utility Owners performing Utility Adjustment Work to perform such work timely, in coordination with the Work, and in compliance with the standards of design and construction and other applicable requirements specified in the DB Documents.

7.5.1.2 In addition to GDOT’s Project administration, GDOT shall independently have the right at all times to approve Utility Adjustments as provided herein. DB Team shall coordinate and be required to procure GDOT approval as required.

7.5.1.3 Regardless of the arrangements made with the Utility Owners, the DB Team shall continue to be the responsible party to GDOT for timely performance of all Utility Adjustment Work so that upon completion of the Work, all Utilities that might impact the Project or be impacted by it (whether located within or outside the Construction Maintenance Limits) are compatible with the Project. GDOT will provide to DB Team the benefit of any provisions in recorded utility or other easements affecting the Project.

7.5.2 Standard Utility Agreements

The DB Team will be responsible for completion of all required Standard Utility Agreements. The DB Team working with the Utility Owner will provide the cost estimate and supporting documents to the District Utilities Manager for review and acceptance. Upon the acceptance by the District, the approved cost estimate and supporting documents shall be forwarded to the State Utilities Preconstruction Manager for processing, final acceptance, and preparation of the Standard Utility Agreement. As described in the GDOT Utility Accommodation Policy and Standards Manual (“UAM”), Chapter 4.2.F Agreements cover all requirements for Standard Utility Agreements.

7.5.3 Requirements

Each Utility Adjustment (whether performed by DB Team, Subcontractor or by the Utility Owner) shall comply with the Adjustment Standards in effect at the date of the RFP advertisement, unless expressly provided otherwise, together with any subsequent amendments and additions to those standards that (a) are necessary to conform to applicable Law, or (b) are adopted by the Utility Owner and affect the Utility Adjustment pursuant to the applicable Standard Utility Agreement(s). In addition, all Utility Adjustment Work shall comply with all applicable Laws, the applicable Standard Utility
Agreement(s), and all other requirements specified in Volume 2, Section 6 (Utility Adjustments).

7.5.4  Failure of Utility Owners to Cooperate/Escalation

DB Team shall use diligent efforts to obtain the cooperation of each Utility Owner as necessary for Utility Adjustments. It shall be the DB Team’s responsibility to coordinate and track each Utility Owner’s progress in relation to the Utility Work Plan or Revised Utility Work Plan previously accepted by GDOT. Once the DB Team has determined that the Utilities work progress is at least 20% behind the accepted Utility Work Plan; the DB Team will notify the Utility Owner, and GDOT of such apparent delay through written correspondence. Such written correspondence shall detail the delay in question and request the Utility to submit a proposal on how the Utility Owner plans to rectify such delay and maintain the project’s schedule prescribed by the previously accepted Utility Work Plan. The Utility will respond to this letter within 10 Business Days. The response shall include a proposal to cure the delay identified by the DB Team. In some cases, the complexity of the project may require that a utility coordination meeting be held to address the issues identified by the DB Team. If the Utility determines that this is the case, then the Utilities response letter shall include a request to hold a utility coordination meeting with the DB Team, the Office of Innovative Delivery Utility Liaison, the District Utility Manager and the Construction Manager for utility delay resolution. If the utility delay cannot be resolved through the coordination efforts described above after 20 Business Days from the date provided in the DB Team’s original written correspondence; the said Dispute shall escalate to the State Construction Engineer for further consideration. If additional escalation is required, DB Team shall follow escalation procedures as outlined in the UAM, Chapter 672-19 of the Rules, and O.C.G.A. § 32-6-171.

7.5.5  Utility Permits (GUPS)

7.5.5.1  It is anticipated that during the design and construction phases of the Work, from time to time Utility Owners will apply for utility permits to install new Utilities that would cross or longitudinally occupy the Property, or to modify, upgrade, repair, relocate or expand existing Utilities within the Property for reasons other than accommodation of the Project.

7.5.5.2  As specified in Article 7.5.5.1, for all such utility permit applications pending as of or submitted after the Effective Date, DB Team shall furnish the most recent Project design information and/or as-built Plans, as applicable, to the applicants, and shall assist each applicant with information regarding the location of other proposed and existing Utilities.

7.5.6  Unexpected Utility Adjustments

Within 120 days after the NTP 1, DB Team shall conduct an investigation for any unidentified Utility. If DB Team finds an unidentified Utility during the 120 day time frame, DB Team may be entitled to a Compensation Event or a Relief Event. If DB Team finds an unidentified Utility after the 120 day time frame, DB Team shall not be entitled to a Compensation Event or a Relief Event. If a Utility is shown on the SUE Plans and not to be impacted by DB Team’s Final Design, but is later identified by DB Team as needing to be relocated, DB Team shall not be entitled to a Compensation Event or a Relief
Event. Notwithstanding the foregoing, DB Team shall not be entitled to a Compensation Event or a Relief Event for any Utility whose location, size and dimensions were reasonably accurate and shown on the SUE Plans.

7.5.7 Early Adjustments

If any Adjustments are designated as Early Adjustments in Volume 2, Section 6 (Utility Adjustments), such Adjustments are anticipated to be completed by the Utility Owner prior to the deadline therefore set forth in the Technical Provisions. DB Team’s obligation to provide Protection in Place for Utilities includes any Early Adjustments, whether or not timely completed. DB Team shall coordinate with GDOT and the Utility Owner as may be necessary for orderly completion of any Early Adjustments, and DB Team shall conduct its Work without interfering with or hindering the progress or completion of any Early Adjustments.

7.6 Conditions to Commencement of Construction Work

7.6.1 Construction Work Generally

Except to the extent expressly permitted in writing by GDOT, DB Team shall not commence or permit or suffer commencement of construction of the Project, or applicable portion thereof, until GDOT issues NTP 3 and all of the conditions of Article 3.3.1.3 have been met.

7.6.2 Utility Adjustments

DB Team shall not commence or permit or suffer commencement of construction of a Utility Adjustment included in the Construction Work until GDOT issues NTP 3, and the requirements of Article 7.5 (Utility Adjustments) have been met.

7.7 Substantial Completion, Punch List, Final Acceptance; Early Opening of Portions of the Project

7.7.1 Substantial Completion

7.7.1.1 GDOT will issue a written certificate of Substantial Completion at such time as Substantial Completion occurs which shall be subject to the terms and conditions of this Article 7.7.1 (Substantial Completion).

7.7.1.2 Substantial Completion shall occur upon satisfactory completion of the requirements of GDOT Standard Specification 108.07.G.

7.7.1.3 All comments from EPD on the Post-Construction Stormwater Report have been addressed by the DB Team, and the EPD’s 90-day Post-Construction Stormwater Report disapproval period has expired.

7.7.1.4 DB Team shall provide GDOT with not less than 20 days prior written notification of the date DB Team determines it will achieve Substantial Completion. A written request for Substantial Completion will not be taken into consideration unless the requirements of the DB Documents have been met, and the request has been approved in writing by GDOT confirming Substantial
Completion requirements of Article 7.7 (Substantial Completion, Punch List, Final Acceptance; Early Opening of Portions of the Project) are met. During such notice period, DB Team and GDOT shall meet and confer and exchange information on a regular cooperative basis with the goal being GDOT’s orderly, timely inspection and review of the Project per the applicable Final Plans and Construction Documents, and GDOT’s issuance of a written certificate of Substantial Completion.

7.7.1.5 During the period specified in Article 7.7.1.4, GDOT shall conduct an inspection of the Project and its components, a review of the applicable Final Plans and Construction Documents and such other investigation as may be necessary to evaluate whether Substantial Completion is achieved. GDOT shall deliver a Punch List to the DB Team following such inspection, review and investigation within five Business Days. GDOT shall then either (a) issue the written certificate of Substantial Completion or (b) notify DB Team in writing setting forth, as applicable, why the Project has not reached Substantial Completion. If GDOT and DB Team cannot agree that the Substantial Completion has been completed by the Substantial Completion Date defined in Exhibit 9, such Dispute shall be resolved according to Article 17 (Default; Remedies; Claim for Adjustments and Disputes).

7.7.2 Punch List

7.7.2.1 GDOT will prepare and maintain the final Punch List. Each participant shall have the right to add items to the Punch List and none shall remove any item added by any other without such other’s express permission. If DB Team objects to the addition of an item by GDOT, the item shall be noted as included under protest, and if the Parties thereafter are unable to reconcile the protest, the Dispute shall be resolved according to Article 17 (Default; Remedies; Claim for Adjustments and Disputes).

7.7.2.2 DB Team shall immediately commence work on the Punch List items and diligently prosecute such work to completion, consistent with the DB Documents, prior to issuance of Final Acceptance.

7.7.3 Final Acceptance

7.7.3.1 Promptly after achieving Substantial Completion, DB Team shall perform all remaining Work for the Project, including completion of all Punch List items, all landscaping other than vegetative ground cover, and aesthetic features. DB Team shall prepare and adhere to a timetable for planting and establishing the vegetative ground cover landscaping, taking into account weather conditions necessary for successful planting and growth, which timetable shall in any event provide for vegetative ground cover landscaping to be planted and established by 12 months after Substantial Completion.

7.7.3.2 GDOT will issue a written certificate of Final Acceptance at such time as all of the following have occurred for the Project:

(a) All requirements for Substantial Completion have been satisfied;
(b) All Punch List items have been completed and delivered to the reasonable satisfaction of GDOT;

(c) GDOT has received a complete set of the Record Drawings in form and content required by Volume 2, Section 2.7.1.2 (Record Drawings);

(d) All Utility Adjustment Work and other work that DB Team is obligated to perform for or on behalf of third parties has been accepted by such third parties, and DB Team has paid for all work by third parties that DB Team is obligated to pay for, other than disputed amounts;

(e) DB Team has paid in full all Liquidated Damages that are due to GDOT pursuant to this Agreement and are not in Dispute, and has provided to GDOT reasonable security for the full amount of Liquidated Damages that may then be the subject of an unresolved Dispute;

(f) There exist no uncured DB Team Defaults that are the subject of a Warning Notice, or with the giving of notice or passage of time, or both, could become the subject of a Warning Notice (except any DB Team Default for which Final Acceptance will affect its cure);

(g) DB Team has received, and paid all associated fees for, all applicable Governmental Approvals and other applicable third-party approvals required pursuant to the DB Documents, and there exists no uncured material violation of the terms and conditions of any such Governmental Approval or other third-party approvals;

(h) DB Team has delivered to GDOT all warranties, manuals and other Deliverables as required pursuant to the Technical Provisions; and

(i) DB Team has delivered to GDOT verification of all required post construction period, including completed operations, Insurance Policies required under the DB Documents.

7.7.3.3 DB Team shall provide GDOT with written notification when DB Team determines it has achieved Final Acceptance. During the 15 Business Day period following receipt of such notification, DB Team and GDOT shall meet and confer and exchange information on a regular cooperative basis with the goal being GDOT’s orderly, timely inspection and review of the Project and the Record Drawings, and GDOT’s issuance of a written certificate of Final Acceptance.

7.7.3.4 During such 15 Business Day period, GDOT shall conduct an inspection of the Punch List items, a review of the Record Drawings and such other investigation as may be necessary to evaluate whether the conditions to Final Acceptance are satisfied. GDOT shall deliver a written report of findings
and recommendations to DB Team following such inspection, review and investigation and in any case by the end of such 15 Business Day period.

7.7.3.5 Within five Business Days after expiration of such 15 Business Day period GDOT shall either (a) issue a certificate of Final Acceptance or (b) notify DB Team in writing setting forth, as applicable, why Final Acceptance has not been achieved. If GDOT and DB Team cannot agree as to the date of Final Acceptance, such Dispute shall be resolved according to Article 17 (Default; Remedies; Claim for Adjustments and Disputes).

7.7.4 Early Opening of Portions of the Project

If the DB Team determines that a portion of the Work, including any Interim Completion Deadline, is safe to open to traffic, that portion must include the following prior to being considered safe to open: all lanes in that direction paved to final pavement surface layer, permanent striping (temporary tape may be used in lane drop tapers), temporary signing, and temporary barrier wall installed. When it determines that that portion of Work is safe to open, the DB Team may notify GDOT thereof through written notice identifying the portion of the Work and asserting that the DB Team, including the EOR, believes that it is safe to open.

The DB Team and GDOT together will inspect that portion of the Work asserted to be safe to open. GDOT will respond within five Business Days after the agreed-upon date of the inspection. If GDOT concurs, GDOT will provide written notice to the DB Team that such portion of the Segment is safe to open. If GDOT does not concur, it will provide the DB Team a list of the items that need to be corrected or completed prior to opening that portion of the Work. This process will repeat until GDOT concurs and provides written notice that that portion of the Work is safe to open and will identify the date when GDOT’s determination was made. The date so identified is the Interim Completion Date for that portion of the Work.

If the Interim Completion Date is later than the Interim Completion Deadline, as identified in Exhibit 9 to the Agreement, the DB Team is liable for Liquidated Damages per Article 17.4.1 (Liquidated Damages for Delayed Interim Completion Deadline(s), Substantial Completion Deadline, or Final Acceptance; Incident Based Liquidated Damages).

The DB Team remains responsible for all repair or replacement for portions of the Work released prior to Final Acceptance. Maintenance responsibilities remain with the DB Team until GDOT issues Final Acceptance. Designation of safe to open for any portion of the Project shall not start a warranty period for any portion of the Work or void or alter any terms of the Agreement.

Opening of portions of the Project prior to Substantial Completion or Final Acceptance does not constitute acceptance of the Work or a waiver of any provisions of the DB Documents.

7.8 Hazardous Materials Management

7.9 Environmental Compliance

Throughout the course of the Design Work and Construction Work, DB Team’s Work shall take into account, be coordinated to allow for, and be performed in accordance with all environmental mitigation measures required under the Environmental Document approvals, including but not limited to the NEPA/GEPA Approval and any other Governmental Approvals for the Project or under the DB Documents, and shall comply with all other conditions and requirements of the Environmental Approvals in accordance with Volume 2, Section 4 (Environmental), provided that the foregoing shall not require nor imply any requirement for DB Team to perform any remediation or disposal of Pre-existing Hazardous Materials or GDOT Release(s) of Hazardous Materials.

7.10 Meetings

7.10.1 DB Team shall conduct regular progress meetings with GDOT during the course of Design Work and Construction Work. These meetings shall be attended by the DB Team’s Lead Contractor’s project manager and the Engineer of Record or Authorized Representatives of each and any other Key Personnel and other personnel as needed for productive use of the meetings.

7.10.2 In addition, GDOT and DB Team, through their respective Authorized Representatives, shall meet from time to time at the other Party’s request to discuss and resolve matters relating to the Work or the Project.

7.10.3 DB Team shall schedule all meetings with GDOT at a date, time, and place reasonably convenient to both Parties and, except in the case of urgency, shall provide GDOT with written notice and a meeting agenda at least one Business Day in advance of each meeting, in the absence of any timeframe specified in the Technical Provisions.

7.10.4 DB Team shall be responsible to document and maintain the full subject matter of all meetings and shall distribute copies of meeting minutes to GDOT not later than the timeframes specified in the Technical Provisions, and in the absence of any specified timeframe, within five days following such meetings.

7.11 Contractor Warranties and Correction of Non-Conforming and Defective Work

7.11.1 DB Team shall obtain customary and reasonable warranties from all Contractors with respect to design, materials, workmanship, installations, equipment, tools, supplies, software or services, all of which DB Team shall cause to be expressly extended and assigned to GDOT, or its designee; provided that the foregoing requirement shall not apply to standard, pre-specified manufacturer warranties of mass-marketed materials, products (including software products), equipment or supplies where the warranty cannot be extended to GDOT using commercially reasonable efforts. To the extent that any Contractor warranty would be voided by reason of DB Team’s negligence in incorporating material or equipment into the Work, DB Team shall be responsible for correcting such defect.

7.11.2 Contractor warranties (if any) are in addition to all rights and remedies available under the DB Documents or applicable Law or in equity, and shall not limit DB
Team’s liability or responsibility imposed by the DB Documents or applicable Law or in equity with respect to the Work, including liability for design defects, latent construction defects, strict liability, breach, negligence, willful misconduct or fraud.

7.11.3 When any act, omission, or other action of DB Team occurs that violates the requirements, conditions, or terms of the DB Documents, or affects the health, safety, or welfare of the public or natural resources, GDOT shall have the right, but not the obligation, to require and direct DB Team to take prompt action to replace, repair, or restore such damage, injury or condition within a time frame established by GDOT, at DB Team’s sole cost and expenses and without entitlement to a Relief Event or Compensation Event.

7.12 Maintenance During Construction Work

7.12.1 GDOT shall be responsible for the operation and maintenance of the Existing Right of Way and any acquired right or interest in any Required Right of Way until the Construction Commencement Date. Upon NTP 3, DB Team shall assume full responsibility for maintenance of all Elements within the Construction Maintenance Limits in accordance with the Maintenance Management Limits Plan and the requirements of the DB Documents.

7.12.2 Upon Final Acceptance, GDOT will assume responsibility for the operation and maintenance of the entire Project, provided that where GDOT has opened any portion of the Project to the public prior to Final Acceptance, GDOT shall then assume responsibility for the operations and maintenance of such portions of the Project at such earlier time, provided, however that in all cases, DB Team shall remain responsible for all Work until Final Acceptance and nothing contained herein shall otherwise limit any warranty obligations of DB Team with respect to any Defect or non-conforming Work.

7.13 For Best Value Projects Only: Impact of ATCs on the Project

7.13.1 In the event DB Team elects to incorporate any previously-approved ATCs acquired from unsuccessful Proposers for possible inclusion in the Project, if not negotiated prior to execution of the Agreement, a Supplemental Agreement is required following the change management procedures of Article 13 (GDOT Changes; DB Team Changes; Directive Letters). The Supplemental Agreement will document (i) any change in the Contract Sum relating to the ATC Costs (informed by a comparison of the DB Team’s cost estimate, the unsuccessful Proposer’s cost estimate, and GDOT’s Cost Estimate) and (ii) any schedule adjustments including, without limitation, to the Project Schedule and/or Milestone Deadlines, as applicable (informed by the related estimated schedule impact as developed by the DB team and validated by GDOT).

GDOT does not make any representation or guarantee as to the accuracy, completeness, or fitness of any unsuccessful Proposer’s ATCs for DB Team’s design concept. GDOT does not take any responsibility for the unsuccessful Proposer’s ATCs and DB Team is responsible for any conclusions they may draw from the unsuccessful Proposer’s ATCs.

7.13.2 If implementation of an ATC forming part of the Project requires the approval or consent of any Government Entity (other than GDOT) or other third party,
then (a) DB Team will have full responsibility for, and bear the full risk of, obtaining any such approval or consent, and (b) if such approval or consent is not granted, or there is an unreasonable and unjustified delay in obtaining such approval or consent (subject to Article 13 (GDOT Changes; DB Team Changes; Directive Letters)) (i) DB Team shall perform the Work as if such ATC had never formed part of the Project, and (ii) shall not be entitled to any additional time or compensation as a result thereof. The foregoing shall not limit DB Team’s rights under Article 14.2 (l) for Compensation Events or under Article 14.1.1 (s) for Relief Event on account of delays or impact costs solely related to the re-evaluation of the NEPA Approval after expiration of the GDOT Re-evaluation Period.

7.13.3 If the DBA incorporates any ATCs and either (a) DB Team does not comply with one or more GDOT conditions of pre-approval for the ATC, or (b) DB Team does not obtain the required third-party approval for the ATC, then DB Team shall comply with the requirements in the RFP that would have applied in the absence of such ATC. Such compliance shall be without any increase in the Contract Sum, extension of Completion Deadline or any other Supplemental Agreement.

**Article 8 SECURITY AND INCIDENT RESPONSE**

**8.1 Security and Incident Response**

**8.1.1** DB Team is responsible for the safety and security of the applicable portion of the Project that is under the control of any DB Team-Related Entity and the workers and public thereon during the performance of the Work.

**8.1.2** DB Team shall comply with all rules, directives and guidance of the U.S. Department of Homeland Security and comparable State agency, and shall coordinate and cooperate with all Governmental Entities providing security, first responder and other public emergency response services, including, without limiting the foregoing, whenever the National Terrorism Advisory System (NTAS) or successor system issues an “Imminent” or “Elevated” Threat Alert or comparable level of threat or alert for any region in which the Project is located or which the Project serves. Unless directed otherwise by GDOT, DB Team, at its expense, shall assign management personnel with decision-making authority to be personally present at the relevant emergency operations center serving the region, including during a disaster affecting the Project proclaimed by the Governor of Georgia, the President of the United States, or their respective designees. DB Team shall provide such service 24 hours a day, seven days a week, until such level or threat or alert has expired, or until the lead agency at the operations center determines such staffing level is no longer necessary.

**8.1.3** DB Team shall perform and comply with the provisions of the Technical Provisions concerning Incident Response, safety and security.
Article 9 MANAGEMENT SYSTEMS AND OVERSIGHT

9.1 Project Management

9.1.1 DB Team is responsible for all activities necessary to manage the Work, including the Utility Adjustment Work. DB Team shall undertake all required aspects of for the Project and Work in accordance with the DB Documents and Good Industry Practice.

9.1.2 DB Team shall develop the necessary plans and documentation in accordance with the Proposal, this Agreement, and Volume 2, Section 2 (Project Management) and Volume 2, Section 3 (Design and Submittals), and Good Industry Practice.

9.1.3 DB Team shall submit to GDOT for acceptance in its good faith discretion in accordance with the procedures described in Article 6.3 (Review and Oversight) and the Technical Provisions each component part, plan and any proposed changes or additions to or revisions of any such component part, plan or other documentation identified in the DB Documents. Each component part, plan and other documentation of the Management Plans or any submittal identified in this Agreement, Volume 2, Section 3 (Design and Submittals), including in Volume 2, Table 3-1 (Master Submittal List), and the DB Documents, and each proposed change or addition to or revision of any such component part, plan or other documentation shall constitute a separate Submittal for purposes of Article 6.3 (Review and Oversight). GDOT may propose any change required to comply with Good Industry Practice or to reflect a change in working practice to be implemented by DB Team.

9.1.4 DB Team shall not commence or permit the commencement of any aspect of the design or construction before the relevant component parts, plans and other documentation of the Management Plans applicable to such Work have been submitted to and accepted by GDOT.

9.1.5 Reserved

9.1.6 DB Team shall carry out internal audits of the Management Plans at the times prescribed in the Management Plans.

9.1.7 DB Team shall cause each of its Contractors at every level to comply with the applicable requirements of the DB Documents.

9.1.8 The DB Team shall designate a Quality Assurance Manager who shall, irrespective of their other responsibilities, have defined authority for ensuring the establishment and maintenance of the Management Plans and reporting to GDOT on the performance of the Management Plans.

9.2 Traffic Management

9.2.1 Upon GDOT issuance of NTP 3 and until Final Acceptance of the Project, DB Team shall be responsible for the general management of traffic on the applicable portion of the Project under the control of any DB Team-Related Entity. DB Team shall manage traffic to preserve and protect safety of traffic on such portions and
Related Transportation Facilities and, to the maximum extent practicable, to avoid disruption, interruption or other adverse effects on traffic flow, throughput or level of service on the Related Transportation Facilities. DB Team shall conduct and carry out traffic management in accordance with all applicable Technical Provisions, Technical Documents, Laws and Governmental Approvals, and in accordance with the Transportation Management Plan, as well as any directives as may be required pursuant to Article 8.1.2.

9.2.2 DB Team shall prepare and submit to GDOT, for GDOT acceptance, a Transportation Management Plan by Project Phase for managing traffic on the Project and Related Transportation Facilities, during the period of construction (from the period from NTP 3 to Final Acceptance), addressing (a) orderly and safe movement and diversion of traffic on the Project and Related Transportation Facilities, and (b) orderly and safe diversion of traffic on the Related Transportation Facilities necessary in connection with field maintenance and repair work in response to Incidents, Emergencies and lane closures. The Transportation Management Plan shall promote safe and efficient operation of the Project and Related Transportation Facilities at all times during construction of the Project, including during Utility Adjustment Work. DB Team shall prepare the Transportation Management Plan according to the schedule set forth in Volume 2, Section 18 (Traffic Control). The Transportation Management Plan shall comply with the Technical Provisions and Technical Documents concerning traffic management and traffic operations.

9.2.3 GDOT shall have at all times, without obligation or liability to DB Team, the right to:

9.2.3.1 Issue a Directive Letter to DB Team regarding traffic management and control (with which DB Team shall comply), or directly assume traffic management and control, of the Project during any period that:

(a) GDOT designates the Project or portion of the Project for immediate use as an emergency evacuation route or a route to respond to a disaster proclaimed by the Governor of Georgia, the President of the United States, or by any other federal or State agency, or any of the aforementioned respective designees, including reversing the direction of traffic flow during such period,

(b) GDOT designates the Project or a portion of the Project for immediate use as an alternate route for diversion of traffic from any interstate or Highway temporarily closed to all lanes in one or both directions due to Incident or Emergency, or

(c) the Commissioner determines such action will be in the public interest as a result of an emergency or natural disaster; and

9.2.3.2 Provide on the Project, via message signs or other means consistent with Good Industry Practice, non-discriminatory traveler and driver information, and other public information (e.g. AMBER alerts), provided that the means to disseminate such information does not materially interfere with the Work.
Article 10   CONTRACTING AND LABOR PRACTICES

10.1   Reserved

10.2   Responsibility for Work, Contractors and Employees

10.2.1 DB Team shall retain or cause to be retained only Contractors that are qualified, experienced and capable in the performance of the portion of the Work assigned. DB Team shall assure that each Contractor has at the time of execution of the Contract, and maintains at all times during performance of the assigned Work, all licenses required by applicable Laws. DB Team shall require all Contractors to adhere to the requirements herein with respect to Subcontractors.

10.2.2 The retention of Contractors by DB Team will not relieve DB Team of its responsibilities hereunder or for the quality of the Work or materials or services provided by it.

10.2.3 Each Contract shall include terms and conditions sufficient to ensure compliance by all Contractors and Subcontractors, all parties performing any Work on behalf thereof, with the requirements of the DB Documents, and shall include those terms that are specifically required by the DB Documents to be included therein, including, to the extent applicable, those set forth in Exhibit 8 (Federal Requirements) and any other applicable Federal Requirements.

10.2.4 Nothing in the DB Documents will create any contractual relationship between GDOT and any Subcontractor. No Contract entered into by or under DB Team shall impose any obligation or liability upon GDOT to any Subcontractor, or any of their respective employees.

10.2.5 DB Team shall supervise and be fully responsible for the actions, omissions, negligence, willful misconduct, or breach of applicable Law or contract by any Contractor or DB Team-Related Entity, or their respective members, officers, directors, partners, and employees, as though DB Team directly employed all such individuals.

10.3   Reserved

10.4   Key Personnel

10.4.1 DB Team shall retain, employ and utilize the individuals specifically listed in Exhibit 2 (Key Personnel and Other Proposal Commitments) to fill the corresponding Key Personnel positions listed therein. DB Team shall not change or substitute any such individuals except due to retirement, death, disability, incapacity, or voluntary or involuntary termination of employment, or as otherwise accepted by GDOT pursuant to Article 10.4.2. In such circumstances, DB Team shall promptly propose a replacement with comparable experience for such position.

10.4.2 DB Team shall notify GDOT in writing of any proposed replacement for any Key Personnel position. Any proposed replacement for a Key Personnel position must be equal or better than the original Key Personnel. GDOT shall have the right to review the qualifications and character of each individual to be appointed to a Key Personnel position (including personnel employed by Contractors to fill any such
position) and to accept or disapprove use of such individual in such position prior to the commencement of any Work by such individual. If DB Team fails to provide a proposed replacement that is sufficiently qualified, in GDOT’s sole discretion, within 30 days after notifying GDOT of a proposed replacement for any Key Personnel position, then such failure may, at GDOT’s sole discretion, constitute a DB Team Default pursuant to Article 17.1.1.8.

10.4.3 DB Team shall cause each individual filling a Key Personnel position to dedicate the full amount of time necessary for the proper prosecution and performance of the Work.

10.4.4 DB Team shall provide to GDOT the phone numbers and e-mail addresses for all Key Personnel. GDOT requires the ability to contact Key Personnel 24 hours per day, seven days per week.

10.5 Reserved

10.6 Labor Standards

10.6.1 In the performance of its obligations under the DB Documents, DB Team at all times shall comply, and require by contract that all Contractors and vendors comply, with all applicable federal and State labor, occupational safety and health standards, rules, regulations and federal and State orders.

10.6.2 All individuals performing the Work shall have the skill and experience and any licenses or certifications required to perform the Work assigned to them.

10.6.3 If any individual employed by DB Team or any Contractor is not performing the Work in a proper, safe and skillful manner, then DB Team shall, or shall cause such Contractor to, remove such individual and such individual shall not be re-employed on the Work. If, after notice and reasonable opportunity to cure, such individual is not removed or if DB Team fails to ensure that skilled and experienced personnel are furnished for the proper performance of the Work, then GDOT may suspend the affected portion of the Work by delivering to DB Team written notice of such suspension. Such suspension shall in no way relieve DB Team of any obligation contained in the DB Documents or entitle DB Team to any additional compensation or time extension hereunder.

10.6.4 DB Team and its Contractors shall comply with the Georgia Immigration & Compliance Act ("Immigration Act"), O.C.G.A. § 13-10-90, et seq. DB Team must certify compliance with the Immigration Act using the form attached as Exhibit 19. The required certificates and affidavits must be filed with GDOT and copies maintained by DB Team and each Contractor as of the Effective Date, recertified as of July 15 of each year, and again recertified upon final completion of the Work under the applicable Contract. State officials, including officials of the Georgia Department of Labor and GDOT, retain the right to inspect and audit the Project and employment records of DB Team and all Contractors without notice during normal working hours until the Work under the applicable Contract is complete, and as otherwise specified by Law.
10.7 Reserved

10.8 Non-Discrimination; Equal Employment Opportunity

10.8.1 DB Team shall not, and shall cause the Contractors to not, discriminate on the basis of race, color, national origin, sex, age, religion or handicap in the performance of the Work under the DB Documents. DB Team shall carry out, and shall cause the Contractors to carry out, applicable requirements of 49 CFR Part 26. Failure by DB Team to carry out these requirements is a material breach of this Agreement, which may result in a Default Termination Event and the termination of this Agreement or such other remedy permitted hereunder as GDOT deems appropriate (subject to DB Team’s rights to notice and opportunity to cure set forth in this Agreement), but is not limited to (1) withholding monthly progress payments; (2) assessing sanctions; (3) liquidated damages; and/or (4) disqualifying the Contractor from future bidding as non-responsible.

10.8.2 DB Team shall include the immediately preceding paragraph in every Contract (including purchase orders and in every Contract of any DB Team-Related Entity for Work), and shall require that they be included in all Contracts at lower tiers, so that such provisions will be binding upon each Contractor.

10.9 Disadvantaged Business Enterprise

10.9.1 General

10.9.1.1 DB Team shall comply with 49 CFR Part 26 and GDOT’s Disadvantaged Business Enterprise (DBE) policy and program. The purpose of GDOT’s DBE policy and program is to ensure that DBEs shall have an equal opportunity to participate in the performance of contracts financed in whole or in part with federal funds. DB Team shall comply with all applicable requirements set forth in GDOT’s DBE policy and program.

10.9.1.2 DB Team shall include provisions to effectuate GDOT’s DBE policy and program in every Contract to which it is a party (including purchase orders and task orders for Work), and shall require that they be included in all Contracts at lower tiers (including purchase orders and task orders for Work), so that such provisions will be binding upon each Contractor. The DB Team shall ensure that all contracts and subcontracts (including purchase orders and task orders for Work) with DBEs to supply labor or materials are required to be performed in accordance with 49 CFR § 26.53.

10.9.1.3 DB Team shall maintain a dedicated DBE manager throughout the Term of the Agreement. The DBE manager must be approved by GDOT and cannot be replaced except by prior GDOT approval.

10.9.2 DBE Participation Goals

10.9.2.1 The DBE Project goal is 12% of the overall Project cost (including design, construction, professional services, management and administration, and inspection) with respect to the race conscious participation by the DB Team. No one area of work can account for more than 30% of DBE
participation. DB Team’s DBE commitments list is attached as Exhibit 14 (Design-Build Team’s DBE Commitments List).

10.9.2.2 DB Team shall exercise good faith efforts to achieve such DBE participation goal for the Project.

10.9.2.3 DBE reporting shall meet all FHWA and GDOT’s DBE policy and program requirements except that reporting will be done quarterly throughout the Term of the Agreement. Failure to meet the participation goal or any of the commitments made in Exhibit 14 (Design-Build Team’s DBE Commitments List) in any two consecutive quarters shall require a recovery plan. The recovery plan shall be submitted within 30 Days from the quarterly reporting describing why the participation goal was not achieved and why commitment(s) are not met. In addition, describe proposed actions to be taken in subsequent quarters to attain the participation goal and meet Exhibit 14 commitments. The recovery plan and proposed actions must be acceptable by GDOT and FHWA.

10.9.3 Compliance with DBE Participation Goals

10.9.3.1 DB Team shall not terminate, and shall not allow a Contractor to terminate, a DBE Subcontractor listed in its Proposal (or an approved substitute DBE firm) without GDOT’s prior written consent. This includes, but is not limited to, instances in which a Contractor seeks to perform work originally designated for a DBE Subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

10.9.3.2 DB Team shall include a provision in every Contract to which it is a party stating that the Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains GDOT’s consent as provided in 49 CFR Part 26.53(f) and that unless GDOT’s consent is provided under 49 CFR Part 26.53(f), the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

10.9.3.3 DB Team shall make available to GDOT upon request a copy of all DBE subcontracts.

10.9.3.4 Before transmitting to GDOT a request to terminate and/or substitute a DBE Subcontractor, the DB Team or Contractor must give notice in writing to the DBE Subcontractor, with a copy to GDOT, of its intent to request to terminate and/or substitute, and the reason for the request. The DB Team or Contractor must give the DBE five Business Days to respond to the notice and advise GDOT and the DB Team or Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why GDOT should not approve the termination and/or substitution.

10.9.3.5 GDOT may only provide written consent allowing the DB Team or a Contractor to terminate a DBE firm listed in the Proposal if GDOT agrees that that the DB Team or Contractor has good cause to terminate the DBE firm. For the purposes of 49 CFR Part 26.53(f), good cause includes the following circumstances:
(a) The listed DBE Subcontractor fails or refuses to execute a written contract;

(b) The listed DBE Subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE Subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the DB Team or Contractor;

(c) The listed DBE Subcontractor fails or refuses to meet the DB Team’s or Contractor’s reasonable, nondiscriminatory bond requirements.

(d) The listed DBE Subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(e) The listed DBE Subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 23 CFR Parts 180, 215, and 1200 or applicable state law;

(f) The listed DBE Subcontractor voluntarily withdraws from the project and provides written notice of its withdrawal;

(g) GDOT has determined that the listed DBE Subcontractor is not a responsible contractor;

(h) The listed DBE is ineligible to receive DBE credit for the type of work required;

(i) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract; or

(j) Other documented good cause that GDOT determines compels the termination of the DBE Subcontractor. Provided, that good cause does not exist if the DB Team or Contractor seeks to terminate a DBE it relied upon to obtain the work so that the DB Team or Contractor can self-perform the work for which the DBE contractor was engaged or so that the DB Team or Contractor can substitute another DBE or non-DBE contractor after contract award.

10.9.3.6 When a DBE Subcontractor is terminated as provided above, or fails to complete its work for any reason, DB Team or Contractor is required to make good faith efforts to find another DBE Subcontractor to substitute for the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the Contract as the DBE that was terminated, to the extent needed to meet the established DBE participation goal. The good faith efforts shall be documented by the DB Team or Contractor.
If GDOT requests documentation of such good faith efforts, the DB Team or Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the DB Team or Contractor, and GDOT shall provide a written determination stating whether or not good faith efforts have been demonstrated.

### 10.10 Job Training Program

10.10.1 DB Team, at its own cost and expense, shall include on-the-job training and shall submit to GDOT for review and acceptance a plan meeting all requirements set forth in GDOT Standard Specification 158. There are 23,000 required training hours for this project.

### 10.11 Prevailing Wages

10.11.1 DB Team shall pay or cause to be paid to all applicable workers employed by it or its Contractors to perform the Work not less than the prevailing rates of wages, as provided in the statutes and regulations applicable to public work contracts, including the Davis-Bacon Act, and as provided in Exhibit 8 (Federal Requirements). DB Team shall comply and cause its Contractors to comply with all Laws pertaining to prevailing wages. For the purpose of applying such Laws, the Project shall be treated as a public work paid for in whole or in part with public funds (regardless of whether public funds are actually used to pay for the Project). The foregoing shall not apply to Contracts at any tier with Governmental Entities.

10.11.2 It is DB Team’s sole responsibility to determine the wage rates required to be paid. In the event rates of wages and benefits change while this Agreement is in effect, DB Team shall bear the cost of such changes and shall have no claim against GDOT on account of such changes. Without limiting the foregoing, no claim will be allowed which is based upon DB Team’s lack of knowledge or a misunderstanding of any such requirements.

10.11.3 DB Team shall comply and cause its Contractors, other than GDOT or Governmental Entities acting as Contractors, to comply with all Laws regarding notice and posting of intent to pay prevailing wages, of prevailing wage requirements and of prevailing wage rates.

### 10.12 Prompt Payment to Contractors and Pay When Paid Provisions

DB Team shall comply with the Georgia Prompt Payment Act, Code Section 13-11-1 et seq. Further, neither DB Team, the Design-Build Contractor or Contractor, nor any Subcontractor shall impose retainage upon any consultant, laborer, subcontractor, vendor, materialman, or supplier with whom any of them have contracted.

Prime contractors, who sublet a portion of their work, shall pay their subcontractors for satisfactory performance of their contracts no later than 10 calendar days from receipt of each payment made to them. Any delay or postponement of payment among the parties may take place only for good cause with prior written approval from the Department. If the contractor is found to be in noncompliance with these provisions, it shall constitute a breach of contract and further payments for any work performed may be withheld until corrective action is taken. If corrective action is not taken, it may result in termination of the contract.
Prime contractors must maintain records and documents of payments to subcontractors, including DBEs, for a minimum of three years after Contract Final Acceptance. These records shall be made available for inspection upon request by any authorized representative of the Georgia Department of Transportation or USDOT.

All subcontract agreements shall contain this requirement.

### 10.13 Suspension and Debarment

DB Team shall deliver to GDOT, not later than January 31 of each year through Final Acceptance, and upon Final Acceptance, signed certifications regarding suspension, debarment, ineligibility, voluntary exclusion, convictions and civil judgments from DB Team, from each affiliate of DB Team (as “affiliate” is defined in 29 CFR 98.905 or successor regulation of similar import), and from each Contractor whose Contract amount equals or exceeds $100,000. The annual certification shall be substantially in the form of paragraphs 1.a through 1.d of Attachment 7 (Debarment and Suspension Certification) to Exhibit 8 (Federal Requirements).

### 10.14 DB Team Identification

Any uniforms, badges, logos and other identification worn by personnel of DB Team-Related Entities or on DB Team Vehicles used to access the Project Site shall bear contrasting colors, lettering, design or other features, clearly visible from a distance.

**Article 11 RELATED AND OTHER FACILITIES**

#### 11.1 Integration with Related Transportation Facilities

11.1.1 DB Team shall locate, configure, design, and construct the termini, interchanges, entrances and exits of the Project so that the Project will be compatible and integrated with the location, configuration, design, operation and maintenance of, and provide a smooth, safe transition of traffic to and from, Related Transportation Facilities, as set forth in Volume 2, Section 1 (General) and Volume 2, Section 11 (Roadways). The design for the Project shall include and provide for such compatibility, integration and transition. The design and construction of the Project, shall satisfy all provisions of the Technical Provisions and Management Plans relating to compatibility, integration and transition with or at Related Transportation Facilities, including those concerning signage, signaling and communications with Users.

11.1.2 Without limiting the foregoing, DB Team shall cooperate and coordinate with GDOT and any third party that owns, constructs, manages, operates or maintains a Related Transportation Facility with regard to the construction, maintenance and repair programs and schedules for such Related Transportation Facilities, in order to minimize disruption to the operation thereof.

11.1.3 To assist DB Team, GDOT shall provide to DB Team during normal working hours, reasonable access to plans, surveys, drawings, as-built drawings, specifications, reports and other documents and information in the possession of GDOT or its contractors and consultants pertaining to Related Transportation Facilities. DB Team, at its expense, shall have the right to make copies of the same. DB Team, at its
expense, shall conduct such other inspections, investigations, document searches, surveys and other work as may be necessary to achieve compatibility, integration and transition with those Related Transportation Facilities identified in Volume 2, Section 11 (Roadways).

11.1.4 GDOT shall provide reasonable assistance to DB Team, upon its request and at its expense, in obtaining cooperation and coordination from third parties that own, manage, operate or maintain Related Transportation Facilities and in enforcing rights, remedies and warranties that DB Team may have against any such third parties. Such assistance may include GDOT’s participation in meetings and discussions. In no event shall GDOT be required to bring any legal action or proceeding against any such third party.

11.1.5 GDOT shall have at all times, without obligation or liability to DB Team, the right to conduct traffic management activities on GDOT’s Related Transportation Facilities and all other facilities of the State transportation network in the area of the Project in accordance with its standard traffic management practices and procedures in effect from time to time.

Article 12 SAFETY COMPLIANCE

12.1 Safety Compliance

12.1.1 DB Team shall take all reasonable precautions and be solely responsible for the safety of, and shall provide protection to prevent damage, injury, or loss to, all persons on the Site or who would reasonably be expected to be affected by the Work, including individuals performing Work, employees of GDOT and its consultants, visitors to the Site and members of the traveling public who may be affected by the Work. DB Team shall at all times comply with all health and safety requirements contained in the DB Documents and DB Team’s Safety Plan and all such requirements under applicable Law.

12.1.2 Safety Compliance Orders

12.1.2.1 GDOT shall use good faith efforts to inform DB Team at the earliest practicable time of any circumstance or information relating to the Project which in GDOT’s reasonable judgment is likely to result in unsafe conditions for the public, which may result in the issuance of a Safety Compliance Order. Except in the case of Emergency, GDOT shall consult with DB Team prior to issuing a Safety Compliance Order concerning the risk to public safety, alternative compliance measures, cost impacts, and the availability of DB Team resources to fund the Safety Compliance work.

12.1.2.2 GDOT’s duties shall include monitoring and inspecting for the purpose of determining whether any circumstances exist that warrant issuance of a Safety Compliance Order with respect to the Design Work and the Construction Work, and giving reports and recommendations to DB Team with respect thereto.
12.1.2.3 Subject to conducting such prior consultation, GDOT may issue Safety Compliance Orders to DB Team at any time from and after the Effective Date.

12.1.3 Duty to Comply

12.1.3.1 Subject to Article 12.1.1, DB Team shall implement all Safety Compliance as expeditiously as reasonably possible following issuance of the Safety Compliance Order. DB Team shall diligently prosecute the work necessary to achieve such Safety Compliance until completion, subject to any remedies allowed from the occurrence of a Relief Event.

12.1.3.2 DB Team shall perform all work required to implement Safety Compliance at DB Team’s sole cost and expense. Without limiting the foregoing and for the avoidance of doubt, in no event shall DB Team be entitled to (a) issue a Change Request, or (b) except as provided in Article 12.1.3 (Duty to Comply), claim that a Compensation Event or Relief Event has occurred or resulted from the existence of a Safety Compliance Order.

12.1.4 Contesting Safety Compliance Orders

DB Team may contest a Safety Compliance Order by delivering to GDOT written notice setting forth (a) DB Team’s claim that no Safety Compliance conditions exist to justify the Safety Compliance Order, (b) DB Team’s explanation of its claim in reasonable detail and (c) DB Team’s estimate of impacts on costs and schedule attributable to the contested Safety Compliance Order. If GDOT does not receive such written notice prior to issuance of a Safety Compliance Order, or within 15 days after GDOT issues an emergency Safety Compliance Order, then DB Team thereafter shall have no right to contest. If DB Team timely contests a Safety Compliance Order, DB Team nevertheless shall implement the Safety Compliance Order, but if it is finally determined under the Dispute Resolution Procedures that Safety Compliance conditions did not exist, then the Safety Compliance Order shall be treated as a Directive Letter for a GDOT Change.

Article 13 GDOT CHANGES; DB TEAM CHANGES; DIRECTIVE LETTERS

This Article 13 and Article 14 (Relief Events; Compensation Events) set forth the requirements for obtaining all Supplemental Agreements under this Agreement. DB Team hereby acknowledges and agrees that the Contract Sum is full and adequate compensation for performance of all of the Work, subject only to those exceptions specified in Article 14 (Relief Events; Compensation Events) and this Article 13.

DB Team unconditionally and irrevocably waives the right to any monetary compensation or other relief in addition to that specifically provided under the terms of this Agreement, except in accordance with Article 14 and this Article 13. The foregoing waiver encompasses all theories of liability, whether in contract, tort (including negligence), equity, quantum meruit or otherwise, and encompasses all theories to extinguish contractual obligations, including impracticability, mutual mistake, and frustration of purpose. Nothing in the Technical Provisions or Technical Documents shall have the intent or effect or shall be construed to create any right of DB Team to any Supplemental Agreement or additional monetary compensation or other relief, any provision in the Technical Provisions or Technical Documents to the contrary notwithstanding.
13.1 Directive Letters

13.1.1 GDOT may at any time issue a Directive Letter to DB Team regarding any matter for which a Supplemental Agreement can be issued or in the event of any Dispute regarding the interpretation of requirements, scope of the Work, or whether DB Team has performed in accordance with the requirements of the DB Documents. The Directive Letter will state that it is issued under this Article 13.1, will describe the Dispute or Work in question, articulate GDOT’s position, provide direction, and will state the basis for determining compensation, if any. If applicable and subject to Article 13.2.5, DB Team shall proceed immediately as directed in the letter, pending the execution of a formal Supplemental Agreement (or, if the letter states that the Work is within DB Team’s original scope of Work or is necessary to comply with the requirements of the DB Documents, DB Team shall proceed with the Work as directed but shall have the right to assert that a GDOT Change has occurred).

13.1.2 The fact that a Directive Letter was issued by GDOT shall not be considered evidence that in fact that a GDOT Change occurred. The determination whether a GDOT Change in fact occurred shall be based on an analysis of the original requirements of the DB Documents and a determination as to whether the Directive Letter in fact constituted a change in those requirements.

13.1.3 In the event that a Directive Letter is issued, which results in a Force Account, the procedures of Article 14.7 (Force Account Compensation) will be followed.

13.2 GDOT Changes

GDOT may, at any time and without notice to any Surety, authorize, cause and/or require, pursuant to a Request for Change Proposal or Directive Letter, changes in the Work, including additions or deletions, or in terms and conditions of the Technical Provisions or Technical Documents (including changes in the standards applicable to the Work).

13.2.1 GDOT’s Request for Change Proposal

13.2.1.1 If GDOT desires to initiate a GDOT Change or to evaluate whether to initiate such a change, then GDOT may, at its discretion, issue a Request for Change Proposal. The Request for Change Proposal shall set forth the nature, extent and details of the proposed GDOT Change.

13.2.1.2 Within seven days after DB Team receives a Request for Change Proposal, or such longer period to which the Parties may mutually agree, GDOT and DB Team shall consult to define the proposed scope of the change. Within seven days after the initial consultation, or such longer period to which the Parties may mutually agree, GDOT and DB Team shall consult concerning the estimated financial and schedule impacts.

13.2.2 Within 30 days following GDOT’s delivery to DB Team of the Request for Change Proposal, DB Team shall provide GDOT with a written response as to whether, in DB Team’s opinion, the proposed change constitutes a GDOT Change, will impact DB Team’s costs and/or will cause a delay to a Completion Deadline, and if so, a detailed assessment of the cost and schedule impact of the proposed GDOT Change, including the following:
13.2.2.1 DB Team’s detailed estimate of the impacts on costs of carrying out the proposed GDOT Change;

13.2.2.2 The effect of the proposed GDOT Change on the Project Schedule, including achievement of the Milestone Deadlines, taking into consideration DB Team’s duty to mitigate any delay to the extent reasonably practicable; and

13.2.2.3 Any other relevant information related to carrying out the proposed GDOT Change.

13.2.3 GDOT shall be entitled, but not required, to obtain, from a qualified independent consultant of GDOT’s choosing, a report prepared in accordance with Good Industry Practice as to the proposed GDOT Change related to the Design Work or the Construction Work, including recommendations and comments concerning DB Team’s estimate of the cost impacts and projected impact on the Project Schedule and Milestone Deadlines. GDOT shall pay for the work of any such consultant.

13.2.4 GDOT and DB Team, giving due consideration to any such report and study as may be commissioned by GDOT, shall exercise good faith efforts to negotiate a mutually acceptable Supplemental Agreement, including adjustment of the Project Schedule and Completion Deadlines, any Compensation Amount to which DB Team is entitled, and the timing and method for payment of any Compensation Amount, in accordance with Article 14 (Relief Events; Compensation Events).

13.2.5 If GDOT and DB Team are unable to reach agreement on a Supplemental Agreement, GDOT may, in its sole discretion, deliver to DB Team a Directive Letter pursuant to Article 13.1 (Directive Letters) directing DB Team to proceed with the performance of the Work in question notwithstanding such disagreement under Force Account provisions. Upon receipt of such Directive Letter, (a) DB Team shall implement and perform the Work in question as directed by GDOT and (b) GDOT will make interim payment(s) to DB Team on a monthly basis for the costs of the Work in question subject to Article 5 (Contract Sum, Payments, and Public Funds), to the extent the payment(s) satisfy Force Account provisions.

13.2.6 GDOT shall be responsible for payment of the Compensation Amount agreed upon, or as determined under Force Account provisions, or determined through the Dispute Resolution Procedures, through one of the payment mechanisms set forth in Article 14.2 (Relief Event and Compensation Event Determinations) and the Project Schedule and Milestone Deadlines shall be adjusted as agreed upon or as determined through the Dispute Resolution Procedures, and in accordance with this Article 13 to reflect the effects of the Supplemental Agreement.

13.3 DB Team Changes

13.3.1 DB Team’s Change Requests

13.3.1.1 DB Team may request GDOT to accept modifications to the Technical Provisions or Technical Documents by submittal of a written Change Request using a form approved by GDOT. The Change Request shall set forth
DB Team's detailed estimate of impacts on costs and schedule attributable to the requested change.

13.3.1.2 GDOT, in its sole discretion, may accept or reject any Change Request proposed by DB Team, provided that GDOT will accept a Change Request necessary to bring the Technical Provisions or Technical Documents into compliance due to an applicable Change in Law per clause (a) of the definition of a Compensation Event. GDOT may condition its acceptance on new or a modification of compensation for GDOT under this Agreement in order to benefit equally in the estimated net cost savings and revenue benefit, if any, attributable to the proposed change. If GDOT accepts such change, DB Team shall execute a Supplemental Agreement and shall implement such change in accordance with the Supplemental Agreement, applicable Technical Provisions, Technical Documents, the Management Plans, Good Industry Practice, and all applicable Laws.

13.3.1.3 DB Team shall be solely responsible for payment of any increased costs and for any Project Schedule delays or other impacts resulting from a DB Team proposed Change Request. If the Change Request results in a decrease in the costs of designing, constructing or operating the Project, the savings in costs shall be allocated between DB Team and GDOT as set forth in the Supplemental Agreement.

13.3.1.4 DB Team may implement and permit a Utility Owner to implement, without a Change Request or Supplemental Agreement, changes to a Utility Adjustment design that do not vary from the Technical Provisions or Technical Documents, but such changes are subject to GDOT’s acceptance as part of a Utility Work Plan as provided in Volume 2, Section 6.3.8.5 (Utility Work Plan).

13.3.1.5 No Change Request shall be required to implement any change to the Work that is not specifically regulated or addressed by the DB Documents or applicable Law.

13.3.1.6 Certain minor changes without significant cost savings or revenue benefits may be accepted in writing by GDOT, and in such event, shall not require a Supplemental Agreement. Any other change in the requirements of the DB Documents shall require a Supplemental Agreement.

Article 14 RELIEF EVENTS; COMPENSATION EVENTS

14.1 Notices

14.1.1 DB Team’s Notice of Compensation Event and/or Relief Event

14.1.1.1 Except as otherwise expressly provided in this Agreement, if at any time DB Team determines that a change to the work has occurred or is imminent, and that change creates a Compensation Event or Relief Event, DB Team shall submit a written notice of Compensation Event and/or Relief Event to GDOT per this Article 14 stating that a Compensation Event or Relief Event has
occurred or will occur. The first compensation event notice shall be labeled “Notice of Compensation Event No. 1” and subsequent compensation event notices shall be numbered sequentially. The first relief event notice shall be labeled “Notice of Relief Event No. 1” and subsequent relief event notices shall be numbered sequentially.

14.1.1.2 Time is of the essence in DB Team’s delivery of its written notice of Compensation Event or written notice of a Relief Event. Accordingly, if for any reason DB Team fails to deliver a notice of Compensation Event and/or Relief Event in strict accordance with Article 14.1.2 (Relief Event Notice) or 14.1.3 (Compensation Event Notice), DB Team shall be deemed to have irrevocably and forever waived the right to assert a Compensation Event and/or Relief Event.

14.1.1.3 If any notice of Compensation or Relief Event concerns any hazardous condition or material described in Article 7.8 (Hazardous Materials Management), the DB Team shall be deemed to have waived the right to collect any and all costs incurred in connection therewith to the extent that GDOT is not afforded the opportunity to inspect such material or condition before it is disturbed.

14.1.2 Relief Event Notice

14.1.2.1 If at any time DB Team determines that a Relief Event has occurred or is imminent, DB Team shall promptly submit a written Notice of Relief Event as provided for in Article 14.1.1.2 to GDOT as follows:

Notices of Relief Events shall include:

(a) a statement of the Relief Event upon which the delay or inability to perform is based, including its nature, the reasons why the DB Team believes additional time will or may be due, and the date of its occurrence and its actual or, if it has not concluded, its anticipated duration;

(b) the effect of the Relief Event on DB Team’s ability to perform any of its obligations under the DB Documents, including details of the relevant obligations;

(c) an explanation of the measures that DB Team proposes to undertake to mitigate the delay and other consequences of the Relief Event; and

(d) provide an estimate of the time within which a response to the notice is required to minimize cost or delay of performance.

14.1.2.2 Failure to file a Notice of Relief Event within 20 days following the date (herein the “starting date”) on which DB Team first became aware (or should have been aware, using all reasonable due diligence) of the Relief Event, DB Team shall be deemed to have irrevocably and forever waived and released the right to relief for the Relief Event accruing after such 20 day deadline.
14.1.2.3 If, following submittal of a Notice of Relief Event, but prior to its conclusion, DB Team receives or becomes aware of any further information relating to the Relief Event and/or any delay in performance or failure to perform, it shall submit such further information to GDOT not later than seven days after DB Team’s receipt or knowledge of the additional information. GDOT may request from DB Team any further information that GDOT may reasonably require, and DB Team shall supply the same within a reasonable period but not later than seven days after such GDOT request. Within seven days of the conclusion of an asserted Relief Event, DB Team shall update its Notice of Relief Event with the date of its actual or estimated conclusion.

14.1.3 Compensation Event Notice

14.1.3.1 If at any time DB Team determines that a Compensation Event has occurred or is imminent, DB Team shall promptly, submit a written Notice of Compensation Event as provided for in Article 14.1.1.2 to GDOT as follows:

Notices for Compensation Events shall include:

(a) a description of the Compensation Event and its date of occurrence in reasonable detail;

(b) the reasons why the DB Team believes additional compensation will or may be due;

(c) a detailed statement of the basis that the work is not included by the Agreement;

(d) identify particular elements of performance for which additional compensation may be sought;

(e) DB Team’s current estimate of the anticipated adverse and beneficial effects of the Compensation Event on the Project and on DB Team’s ability to perform any of its obligations under the DB Documents; and

(f) provide an estimate of the time within which a response to the notice is required to minimize cost or delay of performance.

14.1.3.2 Failure to file a Notice of Compensation Event within 20 days following the date (herein the “starting date”) on which DB Team first became aware (or should have been aware, using all reasonable due diligence) of the Compensation Event, DB Team shall be deemed to have irrevocably and forever waived and released the right to damages for the Compensation Event accruing after such 20 day deadline.

14.1.3.3 If, following submittal of a Notice of Compensation Event, DB Team receives or becomes aware of any further information relating to the Compensation Event, it shall submit such further information to GDOT not later than seven days of DB Team’s receipt or knowledge of the additional information. GDOT may request from DB Team any further information that GDOT may
reasonably require, and DB Team shall supply the same within a reasonable period but not later than seven days after such GDOT request. Within seven days of the conclusion of an asserted Compensation Event, DB Team shall update its notice of a Compensation Event with the date of its actual or estimated conclusion.

14.1.4 Compensation and/or Relief Event Package

14.1.4.1 The DB Team shall deliver to GDOT as soon as practicable and in any event within 30 days (or longer time period if acceptable to GDOT) after delivery of the Notice of Compensation Event and/or Notice of Relief Event, a Compensation and/or Relief Event Package labelled with the Compensation Event number or Relief Event number from the corresponding Notice of Compensation or Relief Event, and containing every item specified in Article 14.1.4.2.

14.1.4.2 Each Compensation and/or Relief Event Package shall at a minimum include:

(a) A scope of work describing in detail satisfactory to the GDOT all activities associated with the asserted Compensation or Relief Event.

(b) A cost estimate that sets out the estimated costs in such a way and in sufficient detail that a fair evaluation can be made. It shall be in a form approved by GDOT and shall include both a separate breakdown of costs that impact design and those that impact construction activities and as separate items: labor, materials, equipment, overhead (which includes all indirect costs) and profit, as and to the extent allowed under Article 13 (GDOT Changes; DB Team Changes; Directive Letters) and this Article 14. If the work is to be performed by Subcontractors and if the work is sufficiently defined to obtain Subcontractor quotes, DB Team shall obtain quotes (with breakdowns showing cost of labor, materials, equipment, overhead and profit) on the Subcontractor’s stationery and shall include such quotes as back-up for the DB Team estimate. Note that compensation costs are determined in accordance with Article 14.5.1 (Determining Compensable Amounts).

(c) If the DB Team claims that a Relief Event has occurred affecting the Critical Path, the DB Team shall provide an impact delay analysis with activity durations, predecessor and successor activities and resources; and showing Float available pursuant to Article 3.2.5, the likely duration of that effect and identify any potential impact to the Critical Path affecting a Completion Deadline, it shall provide a Time Impact Analysis indicating all activities represented or affected by the asserted change in accordance with this Article 14 and Volume 2, Section 2.5 (Project Schedule Requirements). The impacted delay analysis shall only modify the Activities that have been impacted by the event that justifies the extension.

(d) A narrative justification detailing all causes of the asserted change, making specific reference and citing to the applicable provisions of
the Agreement and DB Documents, and describing the data and documents that establish the necessity of such asserted change; and

(e) A sworn certification in a form acceptable to GDOT by the DB Team (and Subcontractor(s), for any Subcontractor involved in the Work or event) that the claim is made is good faith and in accordance with the terms of the DB Documents, the amount of time and/or compensation requested accurately reflects the appropriate adjustments and includes all known and anticipated impacts or amounts whatsoever that may be incurred as a result of the event or matter giving rise to such proposed change and that the DB Team (and Subcontractor(s), as applicable) has no reason to believe and does not believe that the factual basis for the claim is falsely represented.

14.2 Relief Event and Compensation Event Determinations

14.2.1 If DB Team complies with the notice and information requirements in Article 14, then within 60 days after receiving the Relief Event Package or such longer period of time to which the Parties may mutually agree, (and, if applicable, any required updates thereto) GDOT shall issue a Relief Event Determination. GDOT shall specify in the Relief Event Determination (a) the relevant obligations for which relief is given, (b) the period of time that Milestone Deadlines or periods set forth in the Project Schedule will be extended based on the number of days of delay affecting a Critical Path, after consumption of Float available pursuant to Article 3.2.5, that is directly attributable to the Relief Event and that cannot be avoided through reasonable mitigation measures and (c) if applicable, the period of time, if any, that the Contract Time will be extended. DB Team shall be relieved from the performance of obligations to the extent specified in the Relief Event Determination.

14.2.2 If DB Team complies with the notice and information requirements of Article 14, then within 60 days after receiving the Compensation Event Package or such longer period of time to which the Parties may mutually agree, (and, if applicable, any required updates thereto) GDOT shall issue a Compensation Event Determination. GDOT shall specify in the Compensation Event Determination (a) the relevant obligations for which relief is given and (b) the modification of the Contract Sum.

14.2.3 Any final Relief Event Determination and/or final Compensation Event Determination that has been mutually accepted by GDOT and DB Team shall be set forth in a Supplemental Agreement in accordance with Article 14.1.4 (Compensation and/or Relief Event Package). Such Supplemental Agreement shall provide for modification of the Contract Time and the Project Schedule, including to the extent so established by such Relief Event Determination, the Milestone Deadlines, and modification of the Contract Sum pursuant to any such Compensation Event Determination, as the case may be. All Supplemental Agreements shall be all-inclusive, comprehensive, and complete, and shall not include any conditions with respect to pricing or schedule or any other matters. The DB Team is not entitled to any additional costs or time whether deriving from or related to a Supplemental Agreement.
14.2.4 The Package submitted by DB Team will address any and all costs and delays, and after negotiation and upon agreement of the terms and verification that all applicable requirements of Article 13 and this Article 14 are met, the GDOT shall draft the Supplemental Agreement based on the agreed upon terms and the DB Team and GDOT shall execute the Supplemental Agreement.

14.3 Reserved

14.4 Relief Events; Compensation Event Process

14.4.1 Extensions of Time for Relief Events

14.4.1.1 DB Team shall not be excused from compliance with applicable Laws, Technical Provisions or Technical Documents due to the occurrence of a Relief Event, except temporary inability to comply as a direct result of a Relief Event.

14.4.1.2 If GDOT is obligated to but does not provide a Relief Event Determination within such 60 day period or such longer period of time to which the Parties may mutually agree or if DB Team disagrees with the length of the extension of the Contract Time or other relief set forth in the Relief Event Determination, DB Team shall have the right to assert a claim against GDOT for the relevant Relief Event and have such claim determined according to the Dispute Resolution Procedures. Any Dispute regarding the occurrence of a Relief Event, the terms of the Relief Event Determination or waiver of DB Team’s right to relief shall be resolved according to the Dispute Resolution Procedures.

14.4.1.3 Without limiting DB Team’s rights with respect to monetary relief for Compensation Events as set forth in this Agreement, the extensions of time as provided, if any, pursuant to this Article 14 (Relief Events; Compensation Event Process) are DB Team’s sole remedy for a Relief Event.

14.4.2 Limitations on Time Extensions

14.4.2.1 The DB Team shall be required to demonstrate to GDOT’s satisfaction that the change in the Work or other event or situation which is being asserted as a Relief Event will result in or has caused an identifiable and measurable delay of the Work which will impact or has impacted the Critical Path affecting a Completion Deadline.

14.4.2.2 Any extension of a Completion Deadline allowed hereunder shall exclude any delay to the extent that it did not impact the Critical Path affecting a Completion Deadline or was a concurrent delay with any other delay for which the DB Team is not entitled to an extension.

14.5 Compensation Events

14.5.1 Determining Compensable Amounts

The Compensation Amount, if any, for design or construction shall be determined by applying the following provisions.
14.5.1.1 Cost impacts shall:

(a) Exclude (i) third-party entertainment costs, lobbying and political activity costs, costs of alcoholic beverages, costs for first class travel in excess of prevailing economy travel costs, and costs of club memberships, in each case to the extent that such costs would not be reimbursed to an employee of GDOT in the regular course of business, and (ii) unallowable costs under the following provisions of the federal Contract Cost Principles, 48 CFR 31.205: 31.205-8 (contributions or donations), 31.205-13 (employee morale, health, welfare, food service, and dormitory costs and credits), 31.205-14 (entertainment costs), 31.205-15 (fines, penalties, and mischarging costs), 31.205-27 (organization costs), 31.205-34 (recruitment costs), 31.205-35 (relocation costs), 31.205-43 (trade, business, technical and professional activity costs), 31.205-44 (training and education costs), and 31.205-47 (costs related to legal and other proceedings);

(b) Exclude amounts paid or to be paid to Affiliates in excess of the pricing DB Team could reasonably obtain in an arms’ length, competitive transaction with an unaffiliated Contractor;

(c) Exclude those costs incurred in asserting, pursuing, or enforcing any Compensation Event, Relief Event or Dispute;

(d) Be reduced by any savings in costs resulting from the Compensation Event;

(e) Be subject to DB Team’s obligation to mitigate cost increases and augment cost decreases in accordance with this Article 14.5 (Compensation Events).

(f) Exclude costs caused by the breach of contract or fault or negligence, or act or failure to act of any DB Team-Related Entity.

(g) Exclude costs, which could reasonably, and in accordance with Good Industry Practice, have been avoided by the DB Team, including by resequencing, reallocating, or redeploying its forces to other portions of the Work (including any additional costs reasonably incurred in connection with such reallocation or redeployment) or to other activities unrelated to the Work.

(h) Exclude costs for any rejected Work that failed to meet the requirements of the DB Documents and any necessary remedial Work.

(i) Exclude damages or expenses barred under Section 105.13 of the latest edition of GDOT Standard Specifications: Construction of Transportation Systems.
14.5.1.2 In all cases the Compensation Amount shall be net of all insurance available to DB Team including deductibles or deemed to be self-insured by DB Team under Article 16 (Insurance; Performance Security; Indemnity), with respect to cost or revenue impacts of the Compensation Event.

14.5.1.3 The Compensation Amount shall not include any amount on account of federal, State, or local income taxes. Further and notwithstanding anything to the contrary herein, the Compensation Amount shall not include, under any circumstances, costs incurred by DB Team or any Contractors on account of charges or expenses due to (a) the business organization existence or maintenance of its business of any DB Team-Related Entity or (b) labor or employment matters as a result of any Change in Law.

14.5.1.4 If the Compensation Event is under clause (g) of the definition of a Compensation Event, then the Compensation Amount shall be limited to the incremental increase in costs of initial design and construction due to delay and disruption directly attributable to the court order.

14.5.1.5 DB Team shall share with GDOT all data, documents, and information pertaining to bids for any work that is the subject of a Compensation Amount, and all of the aforementioned shall be on an Open Book Basis.

14.5.1.6 Any Dispute between GDOT and the DB Team regarding occurrence of a Compensation Event, determination of the Compensation Amount or waiver of DB Team’s right to compensation shall be resolved by mutual agreement or if mutual agreement cannot be achieved then according to the Dispute Resolution Procedures. The dispute resolution body(ies) shall apply the provisions of this Article 14.5 (Compensation Events) in determining the Compensation Amount.

14.5.1.7 Following a determination of the Compensation Amount by mutual agreement or the Dispute Resolution Procedures, GDOT shall pay such Compensation Amount (a) through periodic payments of the Compensation Amount in accordance with the scheduling and payment provisions in Volume 2, Section 2 (Project Management) , (b) in a lump sum, payable as determined by mutual agreement or through the Dispute Resolution Procedures, or (c) in such other manner as agreed upon by the Parties. GDOT, in its sole discretion, shall be entitled to select one or any combination of the foregoing methods of compensation.

14.5.1.8 Without limiting DB Team’s rights with respect to non-monetary relief for Relief Events as set forth in this Agreement, the Compensation Amount shall represent the sole right to compensation and damages for the adverse financial effects of a Compensation Event. As a condition precedent to GDOT’s obligation to pay any portion of the Compensation Amount, DB Team shall execute a full, unconditional, irrevocable release, in form reasonably acceptable to GDOT, of any claims, Losses or other rights to compensation or other monetary relief associated with such Compensation Event, except for the right to the subject Compensation Amount, DB Team’s right to non-monetary relief for a Relief Event, and the right to terminate this Agreement in accordance with Article 19.4 (Termination for GDOT Default, Suspension of Work, Force Majeure Event, or...
Materially Delayed Notice to Proceed) and to receive any applicable Termination Compensation.

14.5.2 Limitations on Acceleration Costs

14.5.2.1 Acceleration costs shall be compensable hereunder only with express, written direction by GDOT to the DB Team to accelerate its efforts and evidenced by Supplemental Agreements issued by GDOT.

14.5.2.2 Acceleration costs are those fully documented increased costs reasonably incurred by the DB Team (i.e., costs over and above what the DB Team would otherwise have incurred) which are directly attributable to increasing the performance level of the Work in an attempt to complete necessary activities of the Work earlier than otherwise anticipated, such as for additional equipment, additional crews, overtime and shift premiums, increased supervision, and any unexpected movement of materials, equipment, or crews necessary for resequencing in connection with acceleration efforts. Acceleration costs do not include any costs for disruption damages as described below in Article 14.5.3 (No Disruption Damages).

14.5.3 No Disruption Damages

14.5.3.1 Disruption damages, whether from a single event or continual, multiple or repetitive events, are not allowed or recoverable under the Agreement. Disruption damages include costs of (i) rearranging the DB Team’s Work plan not associated with an extension of a Completion Deadline, and (ii) loss of efficiency, momentum or productivity.

14.5.4 Limitations on Delay Damages

14.5.4.1 Delay damages are compensable and are limited to the provisions of GDOT Standard Specifications 105.13.B.

14.5.4.2 Before the DB Team may obtain any increase in the Contract Sum to compensate for any delay damages or acceleration costs, the DB Team shall have demonstrated to GDOT’s satisfaction that:

(a) The Project Schedule in fact sets forth a reasonable method for completion of the Work;

(b) The change in the Work or other event or situation that is the subject of the requested Supplemental Agreement has caused or will result in an identifiable and measurable delay of the Work and impact the Critical Path affecting milestones listed in Exhibit 9 (Milestone Deadlines);

(c) The delay damage was not due to any breach of contract or fault or negligence, or act or failure to act of any DB Team-Related Entity, and could not reasonably have been avoided by the DB Team, including by resequencing, reallocating or redeploying its forces to other portions of the Work (subject to reimbursement for additional
costs reasonably incurred in connection with such reallocation or redeployment) or other activities unrelated to the Work;

(d) The delay for which compensation is sought is not concurrent with any other delay for which the DB Team is not entitled to delay damages; and

(e) The DB Team has suffered or will suffer actual costs due to such delay, each of which costs shall be justified and documented in a manner satisfactory to GDOT.

14.5.4.3 Delay damages shall only be available for delays to the Completion Deadline for Substantial Completion. For delays to any other Completion Deadline the only relief available is suspension of Liquidated Damages for the duration of the proven delay.

14.6 Lump Sum Compensation

14.6.1 The preferred approach by both parties is that Supplemental Agreements will be paid on a lump sum basis, if the parties can agree on a lump sum amount. Lump sum prices shall be based on the original allocations of the Contract Sum to comparable activities. If reference to price allocations is inappropriate, or when requested by GDOT or the DB Team, negotiation for lump sum Supplemental Agreements shall be on an Open Book Basis and may be based on the pricing contained in the escrowed bid documents as well as Subcontractors’ bid prices.

14.6.2 If the parties cannot agree on a lump sum amount for Supplemental Agreements, the Supplemental Agreements will be paid as Force Account Supplemental Agreements described in Article 14.7 (Force Account Compensation).

14.6.3 Each lump sum and force account claim shall meet all applicable requirements of Article 13 (GDOT Changes; DB Team Changes; Directive Letters) and this Article 14.

14.7 Force Account Compensation

14.7.1 GDOT may at its discretion issue a Directive Letter or Force Account Supplemental Agreement whenever the Parties cannot agree to a lump sum Supplemental Agreement or GDOT determines that a Force Account Supplemental Agreement is advisable.

14.7.2 The Force Account shall instruct the DB Team to perform the Work, indicating expressly the intention to treat the items as changes in the Work, and setting forth the kind, character, and limits of the Work as far as they can be ascertained, the terms under which changes to the Contract Sum will be determined, and the estimated total change in the Contract Sum anticipated thereunder.

14.7.3 Force Account work is subject to the provisions of 109.05.B of the latest edition of GDOT Standard Specifications: Construction of Transportation Systems. No other direct or indirect compensation will be allowed, including for other miscellaneous costs for which no specific allowance is provided.
14.7.4 Upon final determination of the allowable costs, GDOT shall issue a modified Supplemental Agreement setting forth the final adjustment to the Contract Sum.

14.7.5 Force Account Records

14.7.5.1 Unless and until a lump sum Supplemental Agreement is issued, or in the case that a Directive Letter or Supplemental Agreement is issued directing work be performed under Force Account provisions, the DB Team shall maintain its records in such a manner as to provide a clear distinction between: (i) the direct cost of Work for which it is entitled (or for which it believes it is entitled) to an increase in the Contract Sum; and (ii) the costs of all other operations.

14.7.5.2 The DB Team shall contemporaneously collect, record in writing, segregate, and preserve: (a) all data necessary to determine the costs described in this Article 14.7 (Force Account Compensation) with respect to all Work which is the subject of a requested Supplemental Agreement, specifically including costs associated with Design Work (for which a negotiated Supplemental Agreement has not been issued); and (b) all data necessary to show the actual impact (if any) of any change on the Critical Path affecting a Completion Deadline with respect to all Work which is the subject of a Supplemental Agreement or a Proposed Supplemental Agreement, if the impact on the Critical Path affecting a Completion Deadline is in dispute.

14.7.5.3 Such data shall be provided on forms approved by GDOT. The cost of furnishing such reports is included in the DB Team’s predetermined overhead and profit.

14.7.5.4 The DB Team shall furnish daily, on forms approved by GDOT, reports of all Force Account Work. The cost of furnishing such reports shall be included in the DB Team’s overhead and profit percentages. The reports shall include:

(a) Name, classification, date, daily hours, total hours, rate, and extension for each laborer, equipment operator, and supervisor, excluding superintendents.

(b) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

(c) Quantities of materials, prices and extensions.

(d) Transportation costs of materials, machinery, and equipment.

(e) Invoices for materials used and for transportation charges.

(f) Cost of property damage, liability, and worker’s compensation insurance premiums, unemployment insurance contributions, and Social Security tax.

The reports shall also state the total costs to date for the Force Account Work.
14.7.5.5 Labor costs for Project management and administration, and construction field management above but not including the Superintendent, according to the DB Team’s organization and standard work practices, are included in the markup as provided in Standard Specification 109.05.B.1.

14.7.5.6 The cost of labor for non-construction-related Work, whether provided by the DB Team or a Subcontractor, will equal the sum of the following: (i) actual wages (i.e. the base wage paid to the employee exclusive of any fringe benefits); plus (ii) an overhead based on the audited Federal Acquisition Regulations (FAR) field rates. The DB Team will also be paid for profit on non-construction labor of five percent of labor costs plus overhead.

14.7.5.7 If materials used on the Force Account Supplemental Agreement Work are not specifically purchased for the Work but are taken from the DB Team’s stock, the DB Team shall furnish an affidavit certifying that such materials were taken from the DB Team’s stock, that the quantity claimed was actually used, and that the price and transportation costs claimed represent actual costs to the DB Team.

14.7.5.8 All Force Account Supplemental Agreement reports shall be signed by the Project Manager. GDOT will compare its records with the DB Team’s reports, make the necessary adjustments, and compile the costs of Force Account Supplemental Agreement Work. When such reports are agreed upon and signed by both parties, they will become the basis of payment and may be billed in the next Payment Request, but shall not preclude subsequent adjustment based on a later audit.

Article 15 REPRESENTATIONS AND COVENANTS

15.1 DB Team Representations and Covenants

DB Team hereby represents to and covenants with GDOT as follows:

15.1.1 During all periods necessary for the performance of the Work, DB Team and its Contractor(s) will maintain all required authority, license status, professional ability, skills and capacity to perform the Work.

15.1.2 As of the Effective Date, DB Team has evaluated the constraints affecting design and construction of the Project, including the Property, the Existing Right of Way and Required Right of Way limits as well as the conditions of the Environmental Documents, and has reasonable grounds for believing and does believe that the Project can be designed and built within such constraints.

15.1.3 Except as to parcels that GDOT lacked title or access to prior to the Effective Date, DB Team, in accordance with Good Industry Practice and the requirements of the DB Documents, shall have examined the Site and surrounding locations, performed appropriate field studies and geotechnical investigations of the Site, investigated and reviewed available public and private records, and undertook other activities sufficient to familiarize itself with surface conditions and subsurface conditions, including the presence of Utilities, Hazardous Materials, contaminated groundwater,
archeological, paleontological and cultural resources, and Threatened or Endangered Species, affecting the Site or surrounding locations; and as a result of such review, inspection, examination and other activities DB Team is familiar with and accepts the physical requirements of the Work, subject to GDOT’s obligations regarding Hazardous Materials under Article 7.8 (Hazardous Materials Management) and Exhibit 11 (Hazardous Materials Risk Allocation Terms) and DB Team’s rights to seek relief under Article 14 (Relief Events; Compensation Events).

15.1.4 DB Team has familiarized itself with the requirements of any and all applicable Laws, including with limitation O.C.G.A. §48-13-30, et. seq., and the conditions of any required Governmental Approvals prior to entering into this Agreement. Except as specifically permitted under Article 13 (GDOT Changes; DB Team Changes; Directive Letters) or Article 14 (Relief Events; Compensation Events), DB Team shall be responsible for complying with the foregoing at its sole cost and without any additional compensation or time extension on account of such compliance, regardless of whether such compliance would require additional time for performance or additional labor, equipment and/or materials not expressly provided for in the DB Documents. As of the Effective Date, DB Team has no reason to believe that any Governmental Approval required to be obtained by DB Team will not be granted in due course and thereafter remain in effect so as to enable the Work to proceed in accordance with the DB Documents.

15.1.5 All Work furnished by DB Team will be performed by or under the supervision of Persons who hold all necessary, valid licenses to practice in the State, by personnel who are skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the Work in accordance with the DB Documents and who shall assume professional responsibility for the accuracy and completeness of the Design Documents, Construction Documents and other documents prepared or checked by them.

15.1.6 As of the Effective Date, DB Team is a [corporation] duly organized and validly existing under the laws of [insert name of state], has the requisite power and all required licenses to carry on its present and proposed activities, and has full power, right and authority to execute and deliver the DB Documents, Principal Project Documents as and to the extent applicable, and to perform each and all of the obligations of DB Team provided for herein and therein. DB Team is duly qualified to do business, and is in good standing, in the State as of the Effective Date, and will remain duly qualified and in good standing throughout the term of this Agreement and for as long thereafter as any obligations remain outstanding under the DB Documents.

15.1.7 The execution, delivery and performance of the DB Documents, and all other Principal Project Documents to which DB Team is (or will be) a party have been (or will be) duly authorized by all necessary corporate action of DB Team; each Person executing the DB Documents and all other such Project related documents, on behalf of DB Team has been (or at the time of execution will be) duly authorized to execute and deliver each such document on behalf of DB Team; and the DB Documents, and all such other Project related documents have been (or will be) duly executed and delivered by DB Team.

15.1.8 Neither the execution and delivery by DB Team of the DB Documents and the Principal Project Documents to which DB Team is (or will be) a party, nor the
consummation of the transactions contemplated hereby or thereby, is (or at the time of execution will be) in conflict with or has resulted or will result in a default under or a violation of the governing instruments of DB Team.

15.1.9 As of the Effective Date, each of the DB Documents, the Principal Project Documents to which DB Team is (or will be) a party constitutes (or at the time of execution and delivery will constitute) the legal, valid and binding obligation of DB Team, enforceable against DB Team and, if applicable, each member of DB Team, in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.

15.1.10 As of the Effective Date, there is no action, suit, proceeding, investigation or litigation pending and served on DB Team which challenges DB Team’s authority to execute, deliver or perform, or the validity or enforceability of, the DB Documents, and all other Project related documents to which DB Team is a party, or which challenges the authority of DB Team official executing the DB Documents, or the Principal Project Documents. DB Team has disclosed to GDOT prior to the Effective Date any pending and un-served or threatened action, suit, proceeding, investigation or litigation with respect to such matters of which DB Team is aware.

15.1.11 As of the Proposal Due Date, DB Team disclosed to GDOT in writing all organizational conflicts of interest of DB Team and its Contractors of which DB Team was actually aware; and between the Proposal Due Date and the Effective Date, DB Team has not obtained knowledge of any additional organizational conflict of interest, and there have been no organizational changes to DB Team or its Contractors identified in its Proposal, which have not been accepted in writing by GDOT. For this purpose, organizational conflict of interest has the meaning set forth in Section 1.6 (Improper Conduct) of the ITP (Instructions to Proposers).

15.1.12 To the extent the Design-Build Contractor is not the DB Team, DB Team represents and warrants, as of the effective date of the Design-Build Contract, as follows: (a) the Design-Build Contractor is duly organized, validly existing and in good standing under the laws of the state of its organization; (b) with respect to Persons that individually hold more than ten percent (10%) of the capital stock of the Design-Build Contractor (including options, warrants and other rights to acquire capital stock), such stock is owned by the Persons whom DB Team has set forth in a written certification delivered to GDOT prior to the Effective Date; (c) the Design-Build Contractor has the power and authority to do all acts and things and execute and deliver all other documents as are required to be done, observed or performed by it in connection with its engagement by DB Team; (d) the Design-Build Contractor has all necessary expertise, qualifications, experience, competence, skills and know-how to perform the design and construction of the Project in accordance with the DB Documents; and (e) the Design-Build Contractor is not in breach of any applicable Law that would have a material adverse effect on the design and construction of the Project.

15.1.13 The execution and delivery by DB Team of this Agreement and all other Project related documents to which DB Team is a party will not result, at the time of execution, in a default under any other agreement or instrument to which it is a party or by which it is bound.
15.1.14 The execution and delivery by DB Team of the DB Documents and performance by DB Team of its obligations thereunder will not conflict with any Laws applicable to DB Team that are valid and in effect on the Effective Date.

15.1.15 The Design-Build Contractor shall comply in full with the provisions of Code Sections 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the “Drug-free Workplace Act”.

15.1.16 No event which, with the passage of time or the giving of notice, would constitute a DB Team Default has occurred and has not yet been cured.

15.1.17 Reserved

15.1.18 DB Team certifies, by entering into this Agreement, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from entering into this Agreement by any federal agency or by any department, agency or political subdivision of the State, including GDOT. For purposes of this Article 15.1.18, the term “principal” means an officer, director, owner, partner, Key Personnel, employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of DB Team.

15.1.19 DB Team represents, warrants and certifies by entering into this Agreement, that neither it nor its Affiliates is presently in arrears in payment of Taxes, permit fees or other statutory, regulatory or judicially required payments to GDOT or the State.

15.1.20 DB Team acknowledges and agrees, that as a requirement to enter into the DB Documents, the Proposal documents delivered pursuant to the RFP constitute all the information used in the preparation of the Proposal, and that no other Proposal preparation information will be considered in the resolution of Disputes. The DB Team also agrees that nothing in the Proposal documents delivered pursuant to the RFP shall change or modify the terms or conditions of the DB Documents.

15.2 GDOT Representations and Covenants

GDOT hereby represents to and covenants with DB Team as follows:

15.2.1 As of the Effective Date, GDOT has full power, right and authority to execute, deliver and perform the DB Documents and the Principal Project Documents to which GDOT is a party and to perform each and all of the obligations of GDOT provided for herein and therein.

15.2.2 As of the Effective Date, each of the DB Documents and the Principal Project Documents to which GDOT is (or will be) a party constitutes (or at the time of execution and delivery will constitute) the legal, valid and binding obligation of GDOT, enforceable against GDOT in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.
15.2.3 The execution and delivery by GDOT of this Agreement and the Principal Project Documents to which GDOT is a party will not result, at the time of execution, in a default under any other agreement or instrument to which it is a party or by which it is bound.

15.2.4 The execution and delivery by GDOT of the DB Documents and performance by GDOT of its obligations thereunder will not conflict with any Laws applicable to GDOT that are valid and in effect on the Effective Date.

15.2.5 Reserved

15.2.6 As of the Effective Date, there is no action, suit, proceeding, investigation or litigation pending and properly served on GDOT, or, to GDOT’s knowledge, without obligation to investigate, threatened, which challenges GDOT’s authority to execute, deliver or perform, or the validity or enforceability of, the DB Documents, and all other Project related documents to which GDOT is a party.

15.3 Survival of Representations and Covenants

The representations and covenants of DB Team and GDOT contained herein shall survive expiration or earlier termination of this Agreement.

15.4 Special Remedies for Mutual Breach of Representations and Covenants

Notwithstanding any other provision of this Agreement, if there exists or occurs any circumstance or event that constitutes or results in a concurrent breach of any of the representations or covenants set forth in this Article 15 (DB Team Representations and Covenants) by both DB Team and GDOT but does not also constitute or result in any other breach or default by either Party, then such breaches shall not form the basis for a Compensation Event by the DB Team or damage claim by GDOT against DB Team. Instead, the only remedies shall be for the Parties to take action to rectify or mitigate the effects of such circumstance or event, to pursue severance and reformation of the DB Documents and Principal Project Documents as set forth in Article 24.13 (Severability), or Termination by Court Ruling as set forth in Article 19.11 (Termination by Court Ruling) and Exhibit 20 (Terms for Termination Compensation).

Article 16 INSURANCE; PERFORMANCE SECURITY; INDEMNITY

16.1 Insurance Policies and Coverage

16.1.1 Insurance Certificates and Additional Insured Endorsements Requirements

16.1.1.1 Certificates of Insurance. The DB Team shall procure the insurance coverages identified below at the DB Team’s expense and shall furnish GDOT an insurance certificate listing GDOT as the certificate holder, and as an additional insured where required. Certificates of insurance shall be on a form approved for use in the State of Georgia by the Commissioner of Insurance that provides the following:
(a) Name and address of authorized insurance agent
(b) Name and address of insured
(c) Name of insurance company(ies)
(d) Description of policies
(e) Policy number(s)
(f) Policy Period(s)
(g) Limits of liability
(h) Name and address of GDOT as certificate holder
(i) Project Name and Number
(j) Signature of authorized insurance agent
(k) Telephone number and e-mail address of authorized insurance agent
(l) Mandatory 30 day notice of cancellation or non-renewal (except 10 Days for non-payment) specifically to GDOT.

16.1.2 Insurer Qualifications, Insurance Requirements. Each of the insurance coverages required below (i) shall be issued by a company licensed or authorized by the Insurance Commissioner to transact the business of insurance in the State of Georgia for the applicable line of insurance, and (ii) shall be an insurer (or, for qualified self-insureds or group self-insureds that hold a certificate of self-insurance with the appropriate agencies within the State of Georgia, a specific excess insurer providing statutory limits) with a Best Policyholders Rating of “A-” or better and with a financial size rating of Class V or larger. Each such policy shall contain the following provisions:

16.1.2.1 The insurance company agrees that the policy shall not be canceled, reduced, or allowed to expire until 30 days, except 10 days for non-payment of premium, after GDOT has received written notice thereof, as evidenced by return receipt of certified mail or statutory mail, or until such time as other insurance coverage providing protection equal to protection called for in this Contract shall have been received, accepted and acknowledged by GDOT. Such notice shall be valid only as to the Project as shall have been designated by Project Number and Name in said notice.

16.1.2.2 The policy shall not be subject to invalidation as to any insured by reason of any act or omission of another insured or any of its officers, employees, agents or other representatives (“Separation of Insureds”), except Professional Liability (Errors and Omissions).

16.1.2.3 Each Insurer is hereby notified that the statutory requirement that the Attorney General shall represent and defend the Indemnified Parties
remains in full force and effect and is not waived by issuance of any policy of insurance. In the event of litigation, any settlement on behalf of the Indemnified Parties must be expressly approved by the Attorney General. The DB Team and its insurance carrier may retain, but are not obligated to retain, counsel to assist with the defense of the Indemnified Parties, in which case there will be mutual cooperation between the Attorney General and such counsel. See O.C.G.A. §45-15-12.

16.1.2.4 All deductibles shall be paid for by the DB Team.

16.1.2.5 The maximum deductible, except for Worker’s Compensation qualified self-insurers or group self-insurers, in any policy shall not exceed $250,000.00 per claim, provided, however, that the maximum deductible requirement shall not apply to self-insurers or group self-insurers that hold a certificate of self-insurance with the appropriate agencies within the State of Georgia.

16.1.3 Required Insurance Coverages. The DB Team also agrees to purchase insurance and have the authorized agent state on the insurance certificate that the DB Team has purchased the following types of insurance coverages, consistent with the policies and requirements of O.C.G.A. §50-21-37. The minimum required coverages and liability limits are as follows:

16.1.3.1 Workers’ Compensation Insurance. The DB Team agrees to provide at a minimum Workers’ Compensation coverage in accordance with the statutory limits as established by the General Assembly of the State of Georgia. A group insurer must submit a certificate of authority from the Insurance Commissioner approving the group insurance plan. A self-insurer must submit a certificate from the Georgia Board of Workers’ Compensation stating the DB Team qualifies to pay its own workers’ compensation claims. The DB Team shall require all Subcontractors performing work under this Agreement to obtain an insurance certificate showing proof of Workers’ Compensation Coverage and shall submit a certificate on the letterhead of the DB Team in the following language:

This is to certify that all subcontractors performing work on this Project are covered by their own workers’ compensation insurance or are covered by the DB Team’s workers’ compensation insurance. DB Team further certifies that additional subcontractors performing work on the Project will be covered by their own workers’ compensation insurance or will be covered by the DB Team’s workers’ compensation insurance.

16.1.3.2 Employers’ Liability Insurance. The DB Team shall also maintain Employer’s Liability Insurance Coverage with limits of at least:

(a) Bodily Injury by Accident - $1,000,000 each accident; and

(b) Bodily Injury by Disease - $1,000,000 each employee.

The DB Team shall require all Subcontractors performing work under this Contract to obtain an insurance certificate showing proof of Employers Liability Insurance
Coverage and shall submit a certificate on the letterhead of the DB Team in the following language:

“This is to certify that all subcontractors performing work on this Project are covered by their own Employers Liability Insurance Coverage or are covered by the DB Team’s Employers Liability Insurance Coverage. DB Team further certifies that additional subcontractors performing work on this Project will be covered by their own Employers Liability Insurance Coverage or will be covered by the DB Team’s Employers Liability Insurance Coverage.

16.1.3.3 Commercial General Liability (CGL) Insurance. The DB Team shall provide Commercial General Liability Insurance (2004 ISO Occurrence Form or equivalent) that shall include, but need not be limited to, coverage for bodily injury and property damage arising from premises and operations liability, products and completed operations liability, blasting and explosion, collapse of structures, underground damage, personal injury liability and contractual liability. The CGL policy must include separate aggregate limits per Project and shall provide at a minimum the following limits:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Premises and Operations</td>
<td>$ 1,000,000.00 per Occurrence</td>
</tr>
<tr>
<td>2. Products and Completed Operations</td>
<td>$ 1,000,000.00 per Occurrence</td>
</tr>
<tr>
<td>3. Personal Injury</td>
<td>$ 1,000,000.00 per Occurrence</td>
</tr>
<tr>
<td>4. Contractual</td>
<td>$ 1,000,000.00 per Occurrence</td>
</tr>
<tr>
<td>5. General Aggregate</td>
<td>$ 2,000,000.00 per Project</td>
</tr>
</tbody>
</table>

16.1.3.4 Commercial Business Automobile Liability Insurance. The DB Team shall provide Commercial Business Automobile Liability Insurance that shall include coverage for bodily injury and property damage arising from the operation of any owned, non-owned, or hired automobile. The Commercial Business Automobile Liability Insurance Policy shall provide not less than $1,000,000 Combined Single Limits for each occurrence.

16.1.3.5 Commercial Umbrella Liability Insurance. The DB Team shall provide a Commercial Umbrella Liability Insurance to provide excess coverage above the Commercial General Liability and Commercial Business Automobile Liability to satisfy the minimum limits set forth herein. The umbrella coverage shall follow form with the Umbrella limits required as follows:

<table>
<thead>
<tr>
<th>Contract Amount</th>
<th>Per Occurrence</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Than $5,000,000:</td>
<td>$ 2,000,000</td>
<td>$ 4,000,000</td>
</tr>
<tr>
<td>Equal to or Greater than $5,000,000 and Less than $30,000,000:</td>
<td>$ 2,000,000</td>
<td>$ 10,000,000</td>
</tr>
<tr>
<td>Greater than $30,000,000:</td>
<td>$ 4,000,000</td>
<td>$ 20,000,000</td>
</tr>
</tbody>
</table>

16.1.3.6 Additional Requirements for Commercial Policies in Articles 16.1.3.3 (Commercial General Liability (CGL) Insurance) through Articles 16.1.3.5 (Commercial Umbrella Liability Insurance):
(a) The DB Team shall cause its insurer to issue an Additional Insured Endorsement naming the officers, members, and employees of GDOT as additional insureds.

(b) Each policy must be written on an “occurrence” basis.

16.1.3.7 Professional Liability (Errors and Omissions) Insurance. Limits shall not be less than the following:

(a) Reserved

(b) Professional Liability (Errors and Omissions): Insurance in an amount not less than one million dollars ($1,000,000.00) per claim or annual aggregate must be maintained or caused to be maintained during the agreement term with a retroactive date no later than the date that design services commenced, and must be maintained for a period of at least five years following Substantial Completion. Such policy or policies shall cover all the DB Team’s professional liabilities, whether occasioned by the DB Team, its employees, subconsultants, subcontractors or other agents arising out of design and engineering services performed under or in accordance with this Agreement.

16.1.3.8 Reserved.

16.1.3.9 Disposition of Insurance Documents. Original certificate(s) of insurance with all required endorsements must be provided to GDOT evidencing the minimum insurance required. Renewal certificates for all required insurance must be provided to GDOT 30 days prior to the expiration/renewal date. If requested, copies of required insurance policies must be provided to GDOT within 10 business days.

16.1.4 Termination of Obligation to Insure. Unless otherwise expressly provided to the contrary, the obligation to insure as provided herein shall not terminate until GDOT shall have executed the certificate of Final Acceptance.

16.1.5 Failure of Insurers. The DB Team is responsible for any delay resulting from the failure of its insurance carriers to furnish proof of proper coverage in the prescribed form.

16.1.6 Inadequacy of Required Coverages. GDOT makes no representation that the scope of coverage and limits of liability specified for any Insurance Policy to be carried pursuant to this Agreement or approved variances therefrom are adequate to protect the DB Team or its Contractors against its undertakings under this Agreement to GDOT, or its liabilities to any third party. It is the responsibility of the DB Team and each Contractor to determine if any changes or additional coverages are required to adequately protect their interests. No such limits of liability or approved variances therefrom shall preclude GDOT from taking any actions as are available to it under the DB Documents, or otherwise at Law.
16.2 Performance and Payment Security

DB Team shall furnish Performance & Payment Bonds (“P&P Bonds”) meeting the requirements of this Article 16.2 as performance and payment security for the Work.

16.2.1 P&P Bonds

16.2.1.1 The DB Team shall furnish, or cause the furnishing of, P&P Bonds. DB Team shall obtain and deliver P&P Bonds in such amount as required pursuant to the terms set forth in the Standard Specification Section 103.05, identifying DB Team as the P&P Obligor, securing DB Team’s obligations to perform the Work and to ensure that payments owing to Claimants are made with respect to such Work.

16.2.1.2 The P&P Bonds shall be issued by a properly licensed and U.S. Treasury listed surety(ies) that have not less than “A” or better and Class VIII by A.M. Best and Company’s Insurance Reports Key Rating Guide, and listed on Treasury Department Circular 570, and be on the list of companies approved by the State for at least three of the last five years from the date of the proposed bond issuance. If P&P Bonds are issued by more than one surety, such P&P Bonds shall be executed on a joint and several basis.

16.3 Prosecution of Claims

16.3.1 Unless otherwise directed by GDOT in writing with respect to GDOT’s insurance claims and subject to the requirements of Articles 16.5 (Indemnity by DB Team) and Article 16.6 (Defense and Indemnification Procedures) below, DB Team shall be responsible for reporting and processing all potential claims by GDOT or DB Team against the Insurance Policies required hereunder. DB Team agrees to report timely to the insurer(s) under such Insurance Policies any and all matters which may give rise to an insurance claim by DB Team or GDOT or another Indemnified Party and to promptly and diligently pursue such insurance claims in accordance with the claims procedures specified in such Insurance Policies, whether for defense or indemnity or both. DB Team shall enforce all legal rights against the insurer under the applicable Insurance Policies and applicable Laws in order to collect thereon, including pursuing necessary litigation and enforcement of judgments, provided that DB Team shall be deemed to have satisfied this obligation if a judgment is not collectible through the exercise of lawful and diligent means.

16.3.2 GDOT agrees to promptly notify DB Team of GDOT’s incidents, potential claims against GDOT, and matters which may give rise to an insurance claim against GDOT, to tender to the insurer GDOT’s defense of the claim under such Insurance Policies, and to cooperate with DB Team as necessary for DB Team to fulfill its duties hereunder.

16.3.3 If in any instance DB Team has not performed its obligations respecting insurance coverage set forth in the DB Documents or is unable to enforce and collect any such insurance for failure to assert claims in accordance with the terms of the Insurance Policies or to prosecute claims diligently, then for purposes of determining DB Team’s liability and the limits thereon or determining reductions in compensation due from GDOT to DB Team on account of available insurance, DB Team shall be treated as
if it has elected to self-insure up to the full amount of insurance coverage which would have been available had DB Team performed such obligations and not committed such failure. Nothing in this Article 16.3.3 or elsewhere in this Article 16.3 (Prosecution of Claims) shall be construed to treat DB Team as electing to self-insure where DB Team is unable to collect due to the bankruptcy or insolvency of any insurer which at the time the Insurance Policy is written meets the rating qualifications set forth in this Article 16.3.

16.3.4 DB Team shall not settle or accept any settlement of any insurance claim which is in excess of $100,000 or which involves any claim that has been asserted against GDOT, the State, or any agency or department thereof, without prior written approval of GDOT, provided that DB Team shall not be required to obtain GDOT approval for workers compensation claims.

16.3.5 If in any instance DB Team has not promptly performed its obligation to report to applicable insurers and process any potential insurance claim tendered by GDOT or another Indemnified Party, then GDOT or the other Indemnified Party may, but is not obligated to, (a) notify DB Team in writing of GDOT's intent to report the claim directly with the insurer and thereafter process the claim, and (b) proceed with reporting and processing the claim if GDOT or the other Indemnified Party does not receive from DB Team, within 10 days after so notifying DB Team, written proof that DB Team has reported the claim directly to the insurer. GDOT or the other Indemnified Party may dispense with such notice to DB Team if GDOT or the other Indemnified Party has a good faith belief that more rapid reporting is needed to preserve the claim.

16.4 Reserved

16.5 Indemnity by DB Team

16.5.1 Subject to Article 16.5.2, DB Team shall release, protect, defend, indemnify and hold harmless the Indemnified Parties from and against any and all Third-Party Claims and Third-Party Losses arising out of, relating to or resulting from:

16.5.1.1 The breach or alleged breach of the DB Documents by DB Team;

16.5.1.2 The failure or alleged failure by any DB Team-Related Entity to comply with the Governmental Approvals, any applicable Environmental Laws or other Laws (including Laws regarding Hazardous Materials Management);

16.5.1.3 Any alleged patent or copyright infringement or other allegedly improper appropriation or use by any DB Team-Related Entity of trade secrets, patents, proprietary information, know-how, copyright rights or inventions in performance of the Work, or arising out of any use in connection with the Project of methods, processes, designs, information, or other items furnished or communicated to GDOT or another Indemnified Party pursuant to the DB Documents; provided that this indemnity shall not apply to any infringement resulting from GDOT’s failure to comply with specific written instructions regarding use provided to GDOT by DB Team;
16.5.1.4 The actual or alleged culpable act or omission, culpable error or misconduct of any DB Team-Related Entity in or associated with performance of the Work;

16.5.1.5 Any and all claims by any governmental or taxing authority claiming taxes based on gross receipts, purchases or sales, the use of any property or income of any DB Team-Related Entity with respect to any payment for the Work made to or earned by any DB Team-Related Entity;

16.5.1.6 Any and all stop notices, liens and claims filed in connection with the Work, including all expenses and attorneys’, accountants’ and expert witness fees and costs incurred in discharging any stop notice, lien or claim, and any other liability to Contractors, laborers and Suppliers for failure to pay sums due for their work, services, materials, goods, equipment or supplies, including interest and attorney’s fees, provided that GDOT is not in default in payments owing (if any) to DB Team with respect to such Work;

16.5.1.7 Any actual or threatened DB Team Release of Hazardous Materials;

16.5.1.8 The claim or assertion by any other developer or contractor that any DB Team-Related Entity interfered with or hindered the progress or completion of work being performed by the other contractor or developer, or failed to cooperate reasonably with the other developer or contractor, so as to cause inconvenience, disruption, delay or loss, except where the DB Team-Related Entity was not in any manner engaged in the management, prosecution, protection or performance of the Work;

16.5.1.9 Any dispute or claim by a Utility Owner related to any DB Team-Related Entity’s performance of, or failure to perform, the obligations under any Standard Utility Agreement;

16.5.1.10 (a) Any DB Team breach of or failure to perform an obligation that GDOT owes to a third Person, including, but not limited to, Governmental Entities, under Law or under any agreement between GDOT and a third Person, where GDOT has delegated performance of the obligation to DB Team pursuant to the terms of the DB Documents, or (b) the negligent or willful acts or omissions of any DB Team-Related Entities which render GDOT unable to perform or abide by an obligation that GDOT owes to a third Person, including, but not limited to, Governmental Entities, under any agreement between GDOT and a third Person, where the agreement is previously disclosed or known to DB Team;

16.5.1.11 The fraud, bad faith, arbitrary or capricious acts, willful misconduct, negligence or violation of Law or contract by DB Team or Design-Build Contractor or any Affiliate of either in connection with DB Team’s performance of real property acquisition services under the DB Documents;

16.5.1.12 Inverse condemnation, trespass, nuisance, interference with use and enjoyment of property or similar taking of or harm to real property by reason of (a) the failure of any DB Team-Related Entity to comply with Good Industry Practice, requirements of the DB Documents, Management Plans or
Governmental Approvals, (b) the intentional misconduct or negligence of any DB Team-Related Entity, or (c) the entry onto or encroachment upon another’s property by any DB Team-Related Entity;

16.5.1.13 If applicable, any violation of any federal or state securities or similar law by any DB Team-Related Entity;

16.5.1.14 Errors, inconsistencies or other defects in the design or construction of the Project and/or of Utility Adjustments, or the Work, included in the Design Work and/or Construction Work; or

16.5.1.15 Any claim asserted or alleged against GDOT in contradiction of Article 4.8.1.

16.5.2 Subject to the releases and disclaimers herein, including all the provisions set forth in Article 4.4 (Limitations on DB Team’s Right to Rely), DB Team’s indemnity obligation shall not extend to any Third-Party Claims and Third-Party Losses to the extent caused or contributed to by:

16.5.2.1 The sole negligence, recklessness or willful misconduct, bad faith or fraud of the Indemnified Party;

16.5.2.2 GDOT’s breach of any of obligations under the DB Documents; or

16.5.2.3 An Indemnified Party’s violation of any Laws or Governmental Approvals;

16.5.2.4 Any material defect inherent in a prescriptive design, or construction specification included in the DB Documents that was not drafted or provided by DB Team under this Agreement, but only where prior to occurrence of the Third-Party Loss DB Team complied with such specification and did not actually know, or would not reasonably have known, while exercising reasonable diligence, that it was deficient or, if DB Team actually knew of the deficiency, unsuccessfully sought GDOT’s waiver or acceptance of a Change Request from such specification; or

16.5.2.5 Any Compensation Event or Relief Event.

16.5.3 In claims by an employee of DB Team, a Contractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Article 16.5 (Indemnity by DB Team) shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for DB Team or a Contractor under workers’ compensation, disability benefit or other employee benefits laws.

16.5.4 For purposes of this Article 16.5 (Indemnity by DB Team), “Third-Party Claim” includes a claim, dispute, disagreement, cause of action, demand, suit, action, judgment, investigation, or legal or administrative proceeding which (a) is asserted, initiated or brought by any Indemnified Party’s employee, agent or contractor against an Indemnified Party, (b) is within the scope of the indemnities and (c) is not covered by the
Indemnified Party’s worker’s compensation program. For purposes of this Article 16.5, “Third-Party Loss” includes any actual or alleged Loss sustained or incurred by such employee, agent or contractor.

16.6 Defense and Indemnification Procedures

16.6.1 If any of the Indemnified Parties receives notice of a claim that it believes is within the scope of the indemnities under Article 16.5 (Indemnity by DB Team), GDOT shall by writing as soon as practicable after receipt of the claim, (a) inform DB Team of the claim, (b) send to DB Team a copy of all written materials GDOT has received asserting such claim and (c) notify DB Team that should no insurer accept defense of the claim, the Indemnified Party will conduct its own defense unless DB Team accepts the tender of the claim in accordance with Article 16.6.3. As soon as practicable after DB Team receives notice of a claim or otherwise has actual knowledge of a claim, it shall tender the claim in writing to the insurers under all potentially applicable Insurance Policies and comply with all notice requirements contained in such Insurance Policies. GDOT and other Indemnified Parties also shall have the right to tender such claims to such insurers.

16.6.2 Subject to Article 16.6.4, if the insurer under any applicable Insurance Policy accepts the tender of defense, GDOT and DB Team shall cooperate in the defense as required by the Insurance Policy. If no insurer under potentially applicable Insurance Policies provides defense, then Article 16.6.3 shall apply.

16.6.3 If the defense is tendered to DB Team, then within 30 days after receipt of the tender it shall notify the Indemnified Party whether it has tendered the matter to an insurer and (if not tendered to an insurer or if the insurer has rejected the tender) shall deliver a written notice stating that DB Team:

16.6.3.1 Accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any “reservation of rights” to deny or disclaim full indemnification thereafter;

16.6.3.2 Accepts the tender of defense but with a “reservation of rights” in whole or in part, with a detailed statement as to the reasons for the “reservation of rights”; or

16.6.3.3 Rejects the tender of defense based on a determination that it is not required to indemnify against the claim under the terms of this Agreement, with a detailed statement as to the reasons for the denial.

16.6.4 If DB Team accepts the tender of defense under Article 16.6.3.1, DB Team acknowledges and agrees (and has caused the insurer to be so notified of the statutory requirements) that the Attorney General shall represent and defend the State, GDOT, and any officer, director, commissioner or employee of such Indemnified Parties; but GDOT will request that the Attorney General, without limiting the authority of the Attorney General, consider attorneys recommended by DB Team for appointment as Special Assistant Attorney General to represent and defend the referenced Indemnified Parties. DB Team may, at the option of the Attorney General, have the right to participate in the defense of the Indemnified Parties. In the event of litigation, any settlement on behalf of the Indemnified Parties must be expressly approved by the
Attorney General. The foregoing shall not relieve DB Team’s obligation to bear the fees and costs of defending and settling such claim. During such defense:

16.6.4.1 DB Team shall fully and regularly inform the Indemnified Party and the Attorney General of the progress of the defense and of any settlement discussions; and

16.6.4.2 Each Indemnified Party shall fully cooperate in said defense, provide to DB Team all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to the Indemnified Party, and maintain the confidentiality of all communications between it and DB Team concerning such defense.

16.6.5 If DB Team responds to the tender of defense as specified in Article 16.6.3.2 or Article 16.6.3.3, such Indemnified Parties shall also be represented by the Attorney General who shall otherwise control the defense of such claim, including settlement. The foregoing shall not relieve DB Team from its obligations to bear the fees and costs of defending and settling such claim.

16.6.6 Even if the Attorney General has appointed counsel selected by DB Team to represent any of the Indemnified Parties, the Attorney General may assume the defense of the applicable Indemnified Parties by delivering to DB Team written notice of such election and the reasons therefor, if the Indemnified Parties, at the time it gives notice of the claim or at any time thereafter, reasonably determines that:

16.6.6.1 A conflict exists between it and DB Team which prevents or potentially prevents DB Team from presenting a full and effective defense;

16.6.6.2 DB Team is otherwise not providing an effective defense in connection with the claim; or

16.6.6.3 DB Team lacks the financial capacity to satisfy potential liability or to provide an effective defense.

16.6.7 If any of the Indemnified Parties is entitled and elects to conduct its own defense pursuant hereto of a claim for which it is entitled to indemnification, DB Team shall reimburse on a current basis all reasonable costs and expenses any such Indemnified Parties incurs in investigating and defending, including, but not limited to, attorney’s fees. In the event the Indemnified Parties are entitled to and elect to conduct their own defense, then:

16.6.7.1 In the case of a defense conducted under Article 16.6.3.1, it shall have the right to settle or compromise the claim with DB Team’s prior written consent, which shall not be unreasonably withheld or delayed;

16.6.7.2 In the case of a defense conducted under Article 16.6.3.2, it shall have the right to settle or compromise the claim with DB Team’s prior written consent, which shall not be unreasonably withheld or delayed, or with approval of the court following reasonable notice to DB Team and opportunity to
be heard and without prejudice to the Indemnified Party’s rights to be indemnified by DB Team; and

16.6.7.3 In the case of a defense conducted under Article 16.6.3.3, it shall have the right to settle or compromise the claim without DB Team’s prior written consent and without prejudice to its rights to be indemnified by DB Team.

16.6.8 A refusal of, or failure to accept, a tender of defense, as well as any Dispute over whether an Indemnified Party which has assumed control of defense is entitled to do so under Article 16.6.6, shall be submitted in accordance with the Dispute Resolution Procedures. DB Team shall be entitled to contest an indemnification claim and pursue, through the Dispute Resolution Procedures, recovery of defense and indemnity payments it has made to or on behalf of the Indemnified Party.

16.6.9 In determining responsibilities and obligations for defending suits pursuant to this Article 16.6 (Defense and Indemnification Procedures), specific consideration shall be given by the Parties to the following factors: (a) the party performing the activity in question; (b) the location of the activity and Incident; (c) contractual arrangements then governing the performance of the activity; and (d) allegations of respective fault contained in the claim.

16.6.10 Notwithstanding anything to the contrary set forth in Article 16.5 (Indemnity by DB Team) or this Article 16.6 (Defense and Indemnification Procedures), the Attorney General is the only counsel authorized to represent GDOT or any State affiliated agencies or departments. In the event that there is any potential conflict of interest that could reasonably arise in the representation of any Indemnified Party and DB Team in the defense of any action, suit or proceeding pursuant to Article 16.5 above or in the event that state or local law requires the use of specific counsel, (i) such Indemnified Party may elect in its sole and absolute discretion whether to waive such conflict of interest, and (ii) unless such Indemnified Party elects to waive such conflict of interest, or in any event if required by state or local law, then the counsel designated by the Indemnified Party shall solely represent such Indemnified Party and, if applicable, DB Team shall retain its own separate counsel, each at DB Team’s sole cost and expense. The Attorney General will consider counsel recommended by DB Team for appointment as a Special Assistant Attorney General.

16.6.11 If a suit or proceeding based on a claimed infringement of a patent or copyright is brought against any of the Indemnified Parties, DB Team shall, at its own expense, defend or settle any such suit or proceeding if authorized to do so in writing by the Attorney General subject to the obligations of indemnification as set forth in Article 16.5 (Indemnity by DB Team).

16.6.12 DB Team, subject to this Article 16.6 (Defense and Indemnification Procedures), may settle the claim without the consent or agreement of the Indemnified Parties, unless the settlement (i) would result in injunctive relief or other equitable remedies or otherwise require the Indemnified Parties to comply with restrictions or limitations that adversely affect or materially impair the reputation and standing of the Indemnified Parties, (ii) would require the Indemnified Parties to pay amounts that DB Team or its insurer does not fund in full, (iii) would not result in the Indemnified Parties full and complete release from all liability to the plaintiffs or Claimants who are parties to or otherwise bound by the settlement, or (iv) directly involves any such Indemnified
Parties (in which case the Attorney General shall be the only counsel authorized to represent such parties with respect to any such settlement).

Article 17  DEFAULT; REMEDIES; CLAIM FOR ADJUSTMENTS AND DISPUTES

17.1  Default by DB Team; Cure Periods

17.1.1  DB Team Default

Subject to relief from its performance obligations pursuant to Article 14.1.2.1 and Article 13.3.2.4, DB Team shall be in breach under this Agreement upon the occurrence of any one or more of the following events or conditions (each a “DB Team Default”):

17.1.1.1  DB Team (a) fails to begin the applicable Work within 30 days following issuance of NTP 1; (b) fails to satisfy all conditions to issuance of NTP 3 under Article 3.3.1 by the NTP 3 Conditions Deadline; or (c) fails to satisfy all conditions to commencement of the applicable Construction Work, and fails to commence such Construction Work with diligence and continuity, as the same may be extended pursuant to this Agreement;

17.1.1.2  An Abandonment;

17.1.1.3  DB Team fails to achieve Substantial Completion by the Substantial Completion Deadline, as the same may be extended pursuant to this Agreement;

17.1.1.4  DB Team fails to achieve Final Acceptance by the Final Acceptance Deadline, or fails to achieve such required Elements of the Work by any applicable Milestone Deadline, as any such dates may be extended pursuant to this Agreement;

17.1.1.5  Any representation or covenant in the DB Documents made by DB Team, or any certificate, schedule, report, instrument or other document delivered by or on behalf of DB Team to GDOT pursuant to the DB Documents is materially false, materially misleading or materially inaccurate when made or omits material information when made;

17.1.1.6  DB Team fails to obtain, provide and maintain any insurance, bonds, or other performance security as and when required under this Agreement for the benefit of relevant parties, or fails to comply with any requirement of this Agreement pertaining to the amount, terms or coverage of the same;

17.1.1.7  DB Team makes or attempts to make or suffers a voluntary or involuntary assignment or transfer of all or any portion of this Agreement, the Project or DB Team’s Interest, or there occurs a Change of Control, in violation of Article 21;

17.1.1.8  DB Team materially fails to timely observe or perform or cause to be observed or performed any other material covenant, agreement, obligation,
term or condition required to be observed or performed by DB Team under the
DB Documents (including material failure to perform the Design Work,
Construction Work, or any material portion thereof in accordance with the DB
Documents); provided that this Article 17.1.1.8 shall not apply to DB Team
Defaults specifically addressed by other provisions of Article 17.1.1 (DB Team
Default);

17.1.1.9 After exhaustion of all rights of appeal, there occurs any
debarment (distinguished from ineligibility due to lack of financial qualifications),
or there goes into effect an agreement for voluntary exclusion, from bidding,
proposing or contracting with any federal department or agency of (a) DB Team,
(b) any member of DB Team with a material financial obligation owing to DB
Team for equity or shareholder loan contributions, (c) any Affiliate of DB Team
for whom transfer of ownership would constitute a Change of Control, or (d) any
Key Contractor whose work is not completed;

17.1.1.10 DB Team fails to (a) deliver to GDOT any remedial plan as
may be required pursuant to Article 17.3.5 (Remedial Action Plan Delivery and
Implementation) or (b) otherwise fails to fully comply with the schedule or specific
elements of, or actions required under, any such accepted remedial plan;

17.1.1.11 DB Team (a) commences a voluntary case seeking liquidation,
reorganization or other relief with respect to itself or its debts under any U.S. or
foreign bankruptcy, insolvency or other similar Law now or hereafter in effect, (b)
seeks the appointment of a trustee, receiver, liquidator, custodian or other similar
official of it or any substantial part of its assets; (c) becomes insolvent, or
generally does not pay its debts as they become due; (d) admits in writing its
inability to pay its debts; (e) makes an assignment for the benefit of creditors; or
(f) takes any action to authorize any of the foregoing; or

17.1.1.12 An involuntary case is commenced against DB Team (a)
seeking liquidation, reorganization, dissolution, winding up, a composition or
arrangement with creditors, a readjustment of debts or other relief with respect to
DB Team or DB Team’s debts under any U.S. or foreign bankruptcy, insolvency
or other similar Law now or hereafter in effect; (b) seeking the appointment of a
trustee, receiver, liquidator, custodian or other similar official of DB Team or any
substantial part of DB Team’s assets; (c) seeking the issuance of a writ of
attachment, execution, or similar process; or (d) seeking like relief; and such
involuntary case shall not be contested by DB Team in good faith or shall remain
undismissed and unstayed for a period of 60 days.

17.1.2 Forbearance and Cure Periods

For the purpose of GDOT’s exercise of other remedies, subject to Article 17.2.2 (Effect of
Warning Notice on DB Team Cure Period) and subject to remedies that this Article 17
expressly states may be exercised before lapse of a cure period, DB Team shall have the
following cure periods with respect to the following DB Team Defaults:

17.1.2.1 Respecting a DB Team Default under Article 17.1.1.10, a
period of five days after GDOT delivers to DB Team written notice of the DB
Team Default;
17.1.2.2 Respecting a DB Team Default under Article 17.1.1.6 or Article 17.1.1.7, a period of 15 days after GDOT delivers to DB Team written notice of the DB Team Default; provided that GDOT shall have the right, but not the obligation, to effect cure, at DB Team’s expense, if a DB Team Default under Article 17.1.1.6 continues beyond five days after such notice is delivered;

17.1.2.3 Respecting a DB Team Default under Article 17.1.1.1 or Article 17.1.1.2, a period of 30 days after GDOT delivers to DB Team written notice of the DB Team Default; provided that as to a DB Team Default under Article 17.1.1.1, such cure period shall not preclude or delay GDOT’s immediate exercise, without notice or demand, of its right, but not the obligation, to effect cure, at DB Team’s expense;

17.1.2.4 Respecting a DB Team Default under Article 17.1.1.5, Article 17.1.1.8, or Article 17.1.1.9, a period of 30 days after GDOT delivers to DB Team written notice of the DB Team Default; provided that (a) if the DB Team Default is of such a nature that the cure cannot with diligence be completed within such time period and DB Team has commenced meaningful steps to cure immediately after receiving the default notice, DB Team shall have such additional period of time, up to a maximum cure period of 180 days, as is reasonably necessary to diligently effect cure, (b) as to Article 17.1.1.5, cure will be regarded as complete when the adverse effects of the breach are cured, and (c) as to Article 17.1.1.9, if the debarred or suspended Person is a managing member, general partner or controlling investor of DB Team, cure will be regarded as complete when DB Team proves it has removed such Person from any position or ability to manage, direct or control the decisions of DB Team or to perform Work;

17.1.2.5 Respecting a DB Team Default under Article 17.1.1.11 or Article 17.1.1.12, no cure period, and there shall be no right to notice of a DB Team Default under Article 17.1.1.11 or Article 17.1.1.12; and

17.1.2.6 Respecting a DB Team Default arising from DB Team’s failure to achieve any Milestone Deadline other than the Substantial Completion Deadline or Final Acceptance Deadline, a forbearance period of 30 days from the date of such DB Team Default shall apply, provided that DB Team shall, as a condition to such forbearance period, be required to (a) deliver to GDOT a remedial action plan within 10 days after written notice of such DB Team Default, pursuant to Article 17.3.5 (Remedial Action Plan Delivery and Implementation) (without further demand or notice by GDOT), and (b) with the delivery of such remedial action plan, acknowledge any associated Liquidated Damages that are accruing. Where such remedial action plan has been accepted by GDOT in writing, then such forbearance period as provided herein shall be extended or abbreviated as required by such remedial action plan, subject to DB Team’s diligent prosecution of the Work in accordance therewith. Any such DB Team Default shall be deemed cured upon satisfaction of the conditions set forth in such accepted remedial action plan and any Liquidated Damages shall cease to accrue upon the date of such satisfaction. Notwithstanding anything to the contrary herein, Liquidated Damages accruing during such forbearance period, as may be extended, shall not be waived by this Article 17.1.2.6 and shall be payable pursuant to the terms of this Agreement.
17.1.3 Certain Curative Actions; Status Report

17.1.3.1 If the DB Team Default consists of failure to give GDOT a required prior notice and opportunity to complete an applicable review and comment or acceptance procedure under Article 6.3 before action is taken by DB Team, such DB Team Default shall be curable only by reversing or suspending the action until the notice and review and comment or acceptance procedures are followed and completed, unless DB Team finished the action before receiving the notice of DB Team Default or unless waived by GDOT.

17.1.3.2 If the DB Team Default consists of any DB Team activity or failure to act which constitutes a change from DB Team’s activities immediately prior to the DB Team Default, such DB Team Default shall be curable only by reinstating the activity as it was being performed immediately prior to the DB Team Default.

17.1.3.3 For any DB Team Default for which a Warning Notice has been delivered by GDOT to DB Team, DB Team may request from GDOT a status report as to DB Team’s progress in effecting a cure, by delivering to GDOT a written request accompanied by DB Team’s own report as to its progress in effecting a cure. GDOT shall provide its response within 10 Business Days after receipt of DB Team’s written request and report. The response shall be provided solely for purposes of informing DB Team as to GDOT’s view of the progress in effecting a cure for the DB Team Default, shall not constitute an admission of any fact, shall not be admissible in evidence for any purpose, shall not form the basis for any Dispute, and shall not limit in any way GDOT’s right to terminate this Agreement in accordance with Article 19.3 (Termination for DB Team Default) should cure not be effected within the relevant period.

17.2 Warning Notices

17.2.1 Warning Notice Events

Without prejudice to any other right or remedy available to GDOT, GDOT may, but in no case shall be required to, deliver a written notice (a “Warning Notice”) to DB Team, stating explicitly that it is a “Warning Notice” and stating in reasonable detail the matter or matters giving rise to the notice and, if applicable, amounts due from DB Team, and reminding DB Team of the implications of such notice, whenever there occurs any of the following:

17.2.1.1 Any DB Team Default under Article 17.1.1.1, 17.1.1.2, 17.1.1.7, 17.1.1.8, or 17.1.1.10;

17.2.1.2 Delay or failure to achieve any Milestone Deadline; or

17.2.1.3 Any other material DB Team Default.

17.2.2 Effect of Warning Notice on DB Team Cure Period

17.2.2.1 Any notice of a DB Team Default issued under Article 17.1 (Default by DB Team; Cure Periods) may, if it concerns a matter under
17.2.1 (Warning Notices Events), also be issued as a Warning Notice. In such case, the cure period available to DB Team, if any, shall be as set forth in Article 17.1.2 (Forbearance and Cure Periods).

17.2.2 If GDOT issues a Warning Notice under Article 17.2.1(Warning Notices Events) for any DB Team Default after it issues a notice of such DB Team Default, then the cure period available to DB Team, if any, for such DB Team Default before GDOT may seek to appoint a receiver for DB Team, remove DB Team or terminate this Agreement on account of such DB Team Default shall be extended by the time period between the date the notice of such DB Team Default was issued and the date the Warning Notice is issued. No later issuance of a Warning Notice shall extend the time when GDOT may exercise any other remedy respecting such DB Team Default.

17.2.3 Other Effects of Warning Notice

17.2.3.1 The issuance of a Warning Notice shall entitle GDOT to increase the level of oversight as provided in Article 17.3.8 (Increased Oversight, Testing, and Inspection).

17.2.3.2 The issuance of a Warning Notice may trigger a Default Termination Event as provided in Article 19.3 (Termination for DB Team Default).

17.3 Remedies for DB Team Default

17.3.1 Termination

In the event of any DB Team Default that is or becomes a Default Termination Event set forth in Article 19.3.1 (DB Team Defaults Triggering GDOT Termination Rights), GDOT may terminate this Agreement and GDOT thereupon may take control of the Work, which termination shall, among other things, automatically terminate all of DB Team’s rights under Article 2 (Grant of Authority and Right of Way), whereupon DB Team shall take all action required to be taken by DB Team under Article 19.5 (Termination Procedures and Duties).

17.3.2 Remedies for Failure to Meet Safety Standards or Perform Safety Compliance

17.3.2.1 Subject to Article 17.3.2.4, if at any time DB Team fails to meet any Safety Standard or timely perform Safety Compliance or GDOT and DB Team cannot reach an agreement regarding the interpretation or application of a Safety Standard or the valid issuance of a Safety Compliance Order within a period of time acceptable to GDOT, acting reasonably, GDOT shall have the absolute right and entitlement to undertake or direct DB Team to undertake any work required to ensure implementation of and compliance with Safety Standards as interpreted or applied by GDOT or with the Safety Compliance Order.

17.3.2.2 To the extent that any work done pursuant to Article 17.3.2.1 is undertaken by GDOT and is reasonably necessary to comply with Safety Standards or perform validly issued Safety Compliance Orders, DB Team shall pay to GDOT on demand GDOT Recoverable Costs in connection with such
work, and GDOT (whether it undertakes the work or has directed DB Team to undertake the work) shall have no obligation or liability to compensate DB Team for any Losses DB Team suffers or incurs as a result thereof.

17.3.2.3 To the extent that any work done pursuant to Article 17.3.2.1 is undertaken by GDOT and is not reasonably necessary to comply with Safety Standards or perform validly issued Safety Compliance Orders, GDOT shall compensate DB Team only for Losses DB Team suffers or incurs as a direct result thereof.

17.3.2.4 To the extent that any Safety Compliance Order work pursuant to Article 17.3.2.1 is undertaken by DB Team under written protest delivered prior to starting the work and it is finally determined that the Safety Compliance work was not necessary, the unnecessary work under the Safety Compliance Order shall be treated as a GDOT Change.

17.3.2.5 Notwithstanding anything to the contrary contained in the DB Documents, if in the good faith judgment of GDOT, DB Team has failed to meet any Safety Standards or perform Safety Compliance and the failure results in an Emergency or danger to persons or property, and if DB Team is not then diligently taking all necessary steps to rectify or deal with such Emergency or danger, GDOT may, without notice and without awaiting lapse of the period to cure any breach, and in addition and without prejudice to its other remedies, (but is not obligated to) (a) immediately take such action as may be reasonably necessary to rectify the Emergency or danger, in which event DB Team shall pay to GDOT on demand the cost of such action, including GDOT Recoverable Costs, or (b) suspend Construction Work and/or close or cause to be closed any and all portions of the Project affected by the Emergency or danger. So long as GDOT undertakes such action in good faith, even if under a mistaken belief in the occurrence of such failure or existence of an Emergency or danger as a result thereof, such action shall not be deemed unlawful or a breach of this Agreement, shall not expose GDOT to any liability to DB Team and shall not entitle DB Team to any other remedy, it being acknowledged that GDOT has a high priority, paramount public interest in protecting public and worker safety at the Project and adjacent and connecting areas. GDOT’s good faith determination of the existence of such a failure, Emergency or danger shall be deemed conclusive in the absence of clear and convincing evidence to the contrary. Immediately following rectification of such Emergency or danger, as determined by GDOT, acting reasonably, GDOT shall allow the Construction Work to continue or such portions of the Project to reopen, as the case may be. The foregoing shall not, however, protect GDOT from DB Team’s lawful claims to indemnity or contribution for third-party bodily injury or property damage arising out of any such GDOT action, if and to the extent (i) GDOT was mistaken in believing such a DB Team Default occurred, (ii) the third-party liability is not insured and not required to be insured under the DB Documents, and (iii) such injury or property damage was caused by GDOT’s negligence, recklessness or intentional misconduct.
17.3.3 Step-in Rights

Upon the occurrence of a DB Team Default and expiration, without full and complete cure, of the cure period, if any, available to DB Team, without necessity for a Warning Notice, and without waiving or releasing DB Team from any obligations, GDOT shall have the right, but not the obligation, for so long as such DB Team Default remains uncured by GDOT or DB Team, to pay and perform all or any portion of DB Team's obligations and the Work that are the subject of such DB Team Defaults, as well as any other then-existing breaches or failures to perform for which DB Team received prior written notice from GDOT but has not commenced diligent efforts to cure provided, that (i) except with respect to DB Team's lawful claims for third-party bodily injury or property damage arising out of such GDOT action, GDOT will not incur any liability to DB Team for any act or omission of GDOT or any other Person in the course of remedying or attempting to remedy any DB Team Default and (ii) GDOT's cure of any DB Team Default will not waive or affect GDOT's rights against DB Team by reason of the DB Team Default.

17.3.3.1 In connection with such action, GDOT may, to the extent and only to the extent reasonably required for or incident to curing the DB Team Default or such other breaches or failures to perform for which DB Team received prior written notice from GDOT but has not commenced and continued diligent efforts to cure:

(a) Employ security guards and other safeguards to protect the Project;

(b) Spend such sums as are reasonably necessary to employ and pay such architects, engineers, consultants and contractors and obtain materials and equipment as may be required, without obligation or liability to DB Team or any Contractors for loss of opportunity to perform the same Work or supply the same materials and equipment;

(c) Draw on and use proceeds from payment and performance bonds and other performance security to the extent available under the terms thereof to pay such sums;

(d) Execute all applications, certificates and other documents as may be required;

(e) Make decisions respecting, assume control over and continue Work as may be reasonably required;

(f) Meet with, coordinate with, direct and instruct contractors and suppliers, process invoices and applications for payment from contractors and suppliers, pay contractors and suppliers, and resolve claims of contractors, subcontractors and suppliers, and for this purpose DB Team irrevocably appoints GDOT as its attorney-in-fact with full power and authority to act for and bind DB Team in its place and stead;
(g) Take any and all other actions as may be reasonably required or incident to curing; and

(h)Prosecute and defend any action or proceeding incident to the Work undertaken.

17.3.3.2 DB Team shall reimburse GDOT on demand, GDOT Recoverable Costs in connection with the performance of any act or Work authorized by this Article 17.3.3 (Step-in Rights).

17.3.3.3 GDOT and any of their Authorized Representatives, contractors, subcontractors, vendors and employees shall not be liable to DB Team in any manner for any inconvenience or disturbance arising out of its entry onto the Project or Project Specific Locations in order to perform under this Article 17.3.3 (Step-in Rights), unless caused by the gross negligence, recklessness, willful misconduct or bad faith of such Person. If any Person exercises any right to pay or perform under this Article 17.3.3, it nevertheless shall have no liability to DB Team for the sufficiency or adequacy of any such payment or performance, or for the manner or quality of design, or construction unless caused by the gross negligence, recklessness, willful misconduct or bad faith of such Person.

17.3.3.4 The rights under this Article 17.3.3 (Step-in Rights) are subject to the right of any Surety under payment and performance bonds to assume performance and completion of all bonded work.

17.3.3.5 In the event GDOT takes action described in this Article 17.3.3 (Step-in Rights) and it is later finally determined that GDOT lacked the right to do so because there did not occur a DB Team Default and expiration, without full and complete cure, of the cure period, if any, available to DB Team, then GDOT’s action shall be treated as a Directive Letter for a GDOT Change.

17.3.4 Damages; Offset

17.3.4.1 Subject to Article 17.3.10 (Cumulative, Non-Exclusive Remedies) and Article 17.3.11 (Limitation on Consequential Damages) and the provisions on Liquidated Damages set forth in Article 17.4 (Liquidated Damages and Nonrefundable Deductions), GDOT shall be entitled to recover any and all damages available at Law (subject to the duty at Law to mitigate damages and without duplicate recovery) on account of the occurrence of a DB Team Default, including, to the extent available at Law, (a) loss of any compensation due GDOT under the DB Documents proximately caused by the DB Team Default, (b) actual and projected costs to remedy any defective part of the Work, (c) actual and projected costs to rectify any breach or failure to perform by DB Team and/or to bring the condition of the Project to the standard it would have been in if DB Team had complied with its obligations to carry out and complete the Work in accordance with the DB Documents, (d) actual and projected costs to GDOT to terminate, take over the Project, re-procure and replace DB Team, and (e) actual and projected increases in costs to GDOT to complete the Project if not completed, together with interest thereon at the Default Interest Rate commencing from the date any amount becomes due to GDOT until paid. DB
Team shall owe any such damages that accrue after the occurrence of the DB Team Default and the delivery of notice thereof, if any, required by this Agreement regardless of whether the DB Team Default is subsequently cured.

17.3.4.2 GDOT may deduct and offset any claim amount owing to it, provided such claim amount has been liquidated through Dispute Resolution Procedures or otherwise, from and against any amounts GDOT may owe to DB Team or any Affiliate pursuant to this Agreement; provided that GDOT shall first draw on all amounts held in respect of the claim in the GDOT Claims Account.

17.3.4.3 If the claim amount is not liquidated, GDOT may elect to exercise its right to direct a payment from DB Team up to the disputed portion of the claim which payment shall be deposited into the GDOT Claims Account. Upon liquidation, the disputed portion of the claim shall be satisfied first from the amounts held in the GDOT Claims Account, and then through GDOT’s right of offset with respect to the liquidated claim amounts.

17.3.5 Remedial Action Plan Delivery and Implementation

17.3.5.1 Upon the occurrence of a DB Team Default, GDOT shall have the right, but is not obligated, to demand that DB Team shall, within 10 days after written notice of such DB Team Default, be required to prepare and submit a remedial action plan for GDOT approval.

17.3.5.2 The remedial action plan shall set forth a schedule and specific actions to be taken by DB Team to improve its performance and cure the DB Team Default. Such actions may include improvements to DB Team’s quality management practices, plans and procedures, revising and restating components of the Management Plans, changes in organizational and management structure, increased monitoring and inspections, changes in Key Personnel and other important personnel, replacement of Contractors, corrective measures necessary to expedite the progress of construction and to demonstrate ability to achieve any Milestone Deadline including, without limitation, (i) working additional shifts or overtime and/or (ii) supplying additional manpower, equipment and facilities, and delivery of security to GDOT.

17.3.5.3 DB Team’s failure to diligently prosecute the Work in accordance with any such approved remedial action plan shall be deemed a further DB Team Default.

17.3.6 Performance Security

17.3.6.1 Upon the occurrence of a DB Team Default and expiration, without full and complete cure, of the applicable cure period, if any, under Article 17.1.2 (Forbearance and Cure Periods), without necessity for a Warning Notice, and without waiving or releasing DB Team from any obligations, and subject to Article 16 (Insurance; Performance Security; Indemnity) as applicable, GDOT shall be entitled to make demand upon and enforce any bond, and make demand upon, draw on and enforce and collect any guaranty or other payment or performance security available to GDOT under this Agreement with respect to the DB Team Default in question in any order in GDOT’s sole discretion. Where
access to a bond or other payment or performance security is to satisfy damages owing, GDOT shall be entitled to make demand, draw, enforce and collect regardless of whether the DB Team Default is cured subsequent to such draw. GDOT will apply the proceeds of any such action to the satisfaction of DB Team’s obligations under the DB Documents, including payment of amounts due GDOT. The foregoing does not limit or affect any other right of GDOT to make demand upon and enforce any bond, and make demand upon, draw on and enforce and collect any guaranty or other payment or performance security, immediately after GDOT are entitled to do so under the bond, guaranty or other payment or performance security.

17.3.7 Suspension of Work

17.3.7.1 Upon GDOT’s delivery of notice of DB Team Default for any of the following breaches or failures to perform and DB Team’s failure to fully cure and correct, within the applicable cure period, if any, available to DB Team under Article 17.1.2 (Forbearance and Cure Periods), GDOT shall have the right and authority to suspend any affected portion of the Work by written order to DB Team:

(a) Performance of Nonconforming Work;

(b) Failure to comply with any Law or Governmental Approval (including failure to handle, preserve and protect archeological, paleontological or historic resources, or failure to handle Hazardous Materials, in accordance with applicable Laws and Governmental Approvals);

(c) Certain failures to remove and replace personnel as set forth in Article 10.6.3;

(d) Failure to provide proof of required insurance coverage as set forth in Article 16.1.1.1 (Certificates of Insurance);

(e) Failure to carry out and comply with Directive Letters;

(f) Failure to satisfy any condition to commencement of construction set forth in Article 7.6 (Conditions to Commencement of Construction Work); and

(g) Failure to maintain, extend or replace performance and payment security required under the Agreement, including any P&P Bonds, unless a drawing has been made under same in the amount of the required coverage provided for in Article 16.2 (Performance and Payment Security) and the proceeds of such drawing are held by GDOT.

GDOT will lift the suspension order promptly after DB Team fully cures and corrects the applicable breach or failure to perform.
17.3.7.2 In addition, GDOT shall have the right and authority to suspend any affected portion of the Work by written notice to DB Team for the following reasons:

(a) To comply with any court order or judgment (although it may qualify as a Compensation Event under Article 14.2.1(g) or a Relief Event under Article 14.1.1(i));

(b) GDOT’s performance of data recovery respecting archeological, paleontological or cultural resources (although it may qualify as a Relief Event under Article 14.1.1(i));

(c) The existence of conditions unsafe for workers, other Project personnel or the general public, including certain failures to comply with Safety Standards or perform Safety Compliance as set forth in Article 17.3.2.5; or

(d) DB Team has failed to (i) pay in full when due sums owing any Contractor for services, materials or equipment, except only for amounts in dispute, or (ii) deliver any certificate, release, certified payroll or affidavit of wages paid required with any Payment Request or required under this Agreement.

17.3.7.3 DB Team shall promptly comply with any such written suspension order, even if DB Team disputes the grounds for suspension. DB Team shall promptly recommence the Work upon receipt of written notice from GDOT directing DB Team to resume Work.

17.3.7.4 In addition to the protections from liability under Article 17.3.2.5, neither GDOT shall not have any liability to DB Team, and DB Team shall have no right to a Relief Event or Compensation Event, in connection with any suspension properly founded on any of the other grounds set forth in this Article 17.3.7 (Suspension of Work) (except potential Relief Events or Compensation Events in the case of suspensions under Articles 17.3.7.2(a) and 17.3.7.2(b)). If GDOT orders suspension of Work on one of the foregoing grounds but it is finally determined under the process set forth under Dispute Resolution Procedures that such grounds did not exist, or if GDOT orders suspension of Work for any other reason, it shall be treated as a Directive Letter for a GDOT Change, except as provided in Article 17.3.2.5.

17.3.8 Increased Oversight, Testing, and Inspection

17.3.8.1 Upon GDOT’s delivery of notice of DB Team Default for any of the following breaches or failures to perform and DB Team’s failure to fully cure and correct, within the applicable cure period, if any, available to DB Team under Article 17.1.2 (Forbearance and Cure Periods), GDOT shall have the right and authority to suspend any affected portion of the Work by written order to DB Team.

17.3.8.2 If GDOT cannot confirm that a portion of the Design Work or the Construction Work is in accordance with the requirements of the DB
Documents, GDOT shall have the right but not the obligation to provide increased monitoring, inspection, sampling, measuring, testing and oversight. If the increased monitoring, inspection, sampling, measuring, testing and oversight reveal: (i) a failure to perform such Work in accordance with the Quality Management Plan, (ii) that the Quality Management Plan does not comply with the DB Documents, or (iii) that such Work is not in accordance with the DB Documents, DB Team shall be responsible for the costs of such increased monitoring, inspection, sampling, measuring, testing and oversight as described in this Article 17.3.8 (Increased Oversight, Testing, and Inspection). DB Team shall correct such deficiencies and the increased monitoring, inspection, sampling, measuring, testing and oversight will continue until those deficiencies have been corrected. If such Work was performed in accordance with the DB Documents, the costs of the increased monitoring, inspection, sampling, measuring, testing and oversight shall be borne by GDOT.

17.3.8.3 If GDOT increases the level of monitoring, inspection, sampling, measuring, testing, auditing and oversight under Article 17.3.8.2 and Liquidated Damages are not provided for under this Agreement in connection with such action, then DB Team shall pay and reimburse GDOT within 30 days after receipt of written demand and reasonable supporting documentation for all increased costs and fees GDOT incurs in connection with such action, including GDOT Recoverable Costs.

17.3.8.4 The foregoing does not preclude GDOT, at its sole discretion and expense, from increasing its level of monitoring, inspection, sampling, measuring, testing, auditing and oversight at other times.

17.3.9 Other Rights and Remedies

Subject to Article 17.3.11 (Limitation on Consequential Damages), Article 17.4.5.2, and Article 19.9 (Exclusive Termination Rights), GDOT shall also be entitled to exercise any other rights and remedies available under this Agreement or any other DB Documents, or available at law or in equity.

17.3.10 Cumulative, Non-Exclusive Remedies

Subject to Articles 17.3.11 (Limitation on Consequential Damages), 17.4.5.2, and 19.9 (Exclusive Termination Rights), each right and remedy of GDOT hereunder shall be cumulative and shall be in addition to every other right or remedy provided herein or now or hereafter existing at Law or in equity or by statute or otherwise, and the exercise or beginning of the exercise by GDOT of any one or more of any of such rights or remedies shall not preclude the simultaneous or later exercise by GDOT of any or all other such rights or remedies.

17.3.11 Limitation on Consequential Damages

17.3.11.1 Notwithstanding any other provision of the DB Documents and except as set forth in Article 17.3.11.2, to the extent permitted by applicable Law, DB Team shall not be liable for punitive damages or special, indirect or incidental, or consequential damages, whether arising out of breach of this Agreement, tort (including negligence) or any other theory of liability, and GDOT
releases DB Team from any such liability, other than for Liquidated Damages for delay, as provided pursuant to this Agreement or otherwise to the extent recoverable from insurance.

17.3.11.2 The foregoing limitation on DB Team’s liability for consequential damages shall not apply to or limit any right of recovery GDOT may have respecting the following:

(a) Losses (including defense costs) to the extent (i) covered by the proceeds of insurance required to be carried pursuant to Article 16.1 (Insurance Policies and Coverage), (ii) covered by the proceeds of insurance actually carried by or insuring DB Team under policies solely with respect to the Project and the Work, regardless of whether required to be carried pursuant to Article 16.1, or (iii) DB Team is deemed to have self-insured the Loss pursuant to Article 16.3.3;

(b) Losses arising out of fraud, criminal conduct, intentional misconduct (which does not include any intentional DB Team Default), recklessness, bad faith or gross negligence on the part of DB Team or Contractor or any Affiliate of either;

(c) DB Team’s obligation to pay Liquidated Damages in accordance with Article 17.4 (Liquidated Damages and Nonrefundable Deductions) or any other provision of the DB Documents;

(d) Losses arising out of DB Team Releases of Hazardous Materials;

(e) Reserved;

(f) Amounts DB Team may be obligated to reimburse to GDOT or that are otherwise due from DB Team to GDOT under the express provisions of the DB Documents, including GDOT Recoverable Costs;

(g) Interest, late charges, fees, transaction fees and charges, penalties and similar charges that the DB Documents expressly state are due from DB Team to GDOT; and

(h) Any credits, deductions or offsets that the DB Documents expressly provide to GDOT against amounts owing DB Team.

17.4 Liquidated Damages and Nonrefundable Deductions

17.4.1 Liquidated Damages for Delayed Interim Completion Deadline(s), Substantial Completion Deadline, or Final Acceptance; Incident Based Liquidated Damages

17.4.1.1 DB Team shall be liable for and pay to GDOT Liquidated Damages with respect to any failure to achieve an Interim Completion(s) by the Interim Completion Deadline(s), Substantial Completion by the Substantial
Completion Deadline, or any failure to achieve Final Acceptance by the Final Acceptance Deadline, as the same may be extended pursuant to this Agreement, or for any other breach of the requirements of the DB Documents as set forth pursuant to Section 1.1 of Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions). Such liability shall apply even though (a) a cure period remains available to DB Team under Article 17.1.2 (Forbearance and Cure Periods) or (b) cure occurs. The amounts of such Liquidated Damages are set forth in Exhibit 18. Such Liquidated Damages shall commence on the Substantial Completion Deadline or the Final Acceptance Deadline, as applicable, or upon the date of breach for each such incident based default pursuant to Section 1.2 of Exhibit 18, as the same may be extended pursuant to this Agreement, and shall continue to accrue until the date of Substantial Completion, the date of Final Acceptance, the cure of any such incident based breach, all as applicable, or until termination of this Agreement.

17.4.1.2 Reserved

17.4.2 Incident Based Nonrefundable Deductions

17.4.2.1 DB Team shall be liable for and pay to GDOT Nonrefundable Deductions with respect to the occurrence of the incidents listed or other breach of the requirements of the DB Documents as set forth pursuant to Section 1.3 of Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions). Unless otherwise stated in this Article 17.4 (Liquidated Damages and Nonrefundable Deductions) nonrefundable deductions shall be applied at the time of the incident. The amounts of such Incident Based Nonrefundable Deductions are set forth in Exhibit 18.

17.4.2.2 Within 10 Business Days prior to GDOT issuing any nonrefundable deductions as set forth pursuant to Section 1.3 and excluding Section 1.3.1 of Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions), GDOT shall execute the following:

(a) Issuance of a warning via e-mail to the DB Team to correct the incident within seven days of receipt of the e-mail; and

(b) Issuance of a formal written warning to the DB Team to correct the incident within three days after the issuance of the warning in subsection (a). If the DB Team has failed to comply with subsection (a) and (b) to correct the incident at the end of the third day then DB Team shall be liable for and shall pay GDOT the Nonrefundable Deduction.

17.4.3 Acknowledgements Regarding Liquidated Damages

DB Team further agrees and acknowledges that:

17.4.3.1 In the event that DB Team fails to achieve Substantial Completion by the Substantial Completion Deadline or Final Acceptance by the Final Acceptance Deadline, GDOT will incur substantial damages;
17.4.3.2 In the event that DB Team causes occurrence of the incidents listed pursuant to Sections 1.2 and 1.3 of Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions), GDOT will incur substantial damages;

17.4.3.3 Such damages are incapable of accurate measurement and difficult to prove for the reasons stated in this Article 17.4 (Liquidated Damages and Nonrefundable Deductions);

17.4.3.4 As of the Effective Date, the amounts of Liquidated Damages under this Article 17.4 (Liquidated Damages and Nonrefundable Deductions) represent good faith estimates and evaluations by the Parties as to the actual potential damages that GDOT would incur as a result of late Substantial Completion or late Final Acceptance or should the incidents listed occur, and do not constitute a penalty or to otherwise operate as a deterrent for the breach of any obligations of DB Team under this Agreement;

17.4.3.5 The Parties have agreed to such Liquidated Damages in order to fix and limit DB Team's costs and to avoid later Disputes over what amounts of damages are properly chargeable to DB Team;

17.4.3.6 Such sums are reasonable in light of the anticipated or actual harm caused by delayed Substantial Completion or delayed Final Acceptance or should the incidents listed occur, the difficulties of the proof of loss, and the inconvenience or infeasibility of otherwise obtaining an adequate remedy;

17.4.3.7 DB Team acknowledges that such Liquidated Damages are reasonable, as determined as of the Effective Date, in light of the respective injuries and damages that may be caused by DB Team's breach and given that such injuries and damages, which include but shall not be limited to, public inconvenience, increased administration and oversight by GDOT (and any other related agencies), and other damages to the general public, GDOT (and other related agencies); and

17.4.3.8 Such Liquidated Damages are not intended to, and do not, liquidate DB Team's liability under the indemnification provisions of Article 16.5 (Indemnity by DB Team), even though Third-Party Claims against Indemnified Parties may arise out of the same event, breach or failure that gives rise to such Liquidated Damages.

17.4.4 Payment; Satisfaction; Waiver

17.4.4.1 GDOT shall withhold Liquidated Damages owing under this Article 17.4 (Liquidated Damages and Nonrefundable Deductions) from the subsequent DB Team pay application. Liquidated damages shall be withheld by GDOT without right of offset, deduction, reduction or other charge, except as provided in Article 17.6.3 (Offset Rights).

17.4.4.2 GDOT shall have the right to deduct and offset Liquidated Damages from any amounts owing DB Team to the extent provided in Article 17.3.4 (Damages; Offset). GDOT also shall have the right to draw on any
bond, certificate of deposit, or other security provided by DB Team pursuant to this Agreement, to satisfy Liquidated Damages not paid when due.

17.4.4.3 Permitting or requiring DB Team to continue and finish the Work or any part thereof after the Substantial Completion Deadline or Final Acceptance Deadline shall not act as a waiver of GDOT’s right to receive Liquidated Damages hereunder or any rights or remedies otherwise available to GDOT.

17.4.5 Non-Exclusive Remedy

17.4.5.1 Each item of Liquidated Damages provided under this Article 17.4 (Liquidated Damages and Nonrefundable Deductions) is in addition to, and not in substitution for, any other item of Liquidated Damages assessed under this Article 17.4.

17.4.5.2 GDOT’s right to, and imposition of, Liquidated Damages are in addition, and without prejudice, to any other rights and remedies available to GDOT under the DB Documents, at law or in equity respecting the breach, failure to perform or DB Team Default that is the basis for the Liquidated Damages or any other breach, failure to perform or DB Team Default, except for recovery of the monetary damage for delay that the Liquidated Damages are intended to compensate and for which Liquidated Damaged shall be the only amount recoverable on account of delay damages.

17.5 Default by GDOT; Cure Periods

17.5.1 GDOT Default

GDOT shall, subject to any applicable cure period as set forth in Article 17.5.2 (Cure Periods) below, be in breach under this Agreement upon the occurrence of any one or more of the following events or conditions (each a “GDOT Default”):

17.5.1.1 GDOT fails to make any payment due DB Team under this Agreement within 30 days of the date that any such payment shall be due;

17.5.1.2 Any representation or covenant made by GDOT in this Agreement is false or materially misleading or materially inaccurate when made or omits material information when made;

17.5.1.3 GDOT fails to observe or perform any covenant, agreement, term or condition required to be observed or performed by GDOT under the DB Documents;

17.5.1.4 GDOT makes an assignment other than as permitted pursuant to Article 21.3; or

17.5.1.5 GDOT or other State Governmental Entity confiscates or appropriates the Project or any other material part of DB Team’s Interest, excluding a Termination for Convenience or any other exercise of a right of termination set forth in this Agreement.
17.5.2 Cure Periods

GDOT shall have the following cure periods with respect to the any of the conditions set forth in Article 17.5.1 (GDOT Default) above:

17.5.2.1 Respecting a GDOT Default under Article 17.5.1.1, a period of 30 days after DB Team delivers to GDOT written notice of the GDOT Default;

17.5.2.2 Respecting a GDOT Default under Article 17.5.1.2 or Article 17.5.1.3, a period of 60 days after DB Team delivers to GDOT written notice of the GDOT Default; provided that (a) if the GDOT Default is of such a nature that the cure cannot with diligence be completed within such time period and GDOT has commenced meaningful steps to cure immediately after receiving the default notice, GDOT shall have such additional period of time, up to a maximum cure period of 180 days, as is reasonably necessary to diligently effect cure, and (b) as to Article 17.5.1.2, cure will be regarded as complete when the adverse effects of the breach are cured;

17.5.2.3 Respecting a GDOT Default under Article 17.5.1.4, a period of 45 days after DB Team delivers to GDOT written notice of the GDOT Default; and

17.5.2.4 Respecting a GDOT Default under Article 17.5.1.5, a period of 30 days after DB Team delivers to GDOT written notice of the GDOT Default; provided that if the GDOT Default is of such a nature that the cure cannot with diligence be completed within such time period and GDOT has commenced meaningful steps to cure immediately after receiving the default notice, GDOT shall have such additional period of time, up to a maximum cure period of 120 days, as is reasonably necessary to diligently effect cure.

17.6 DB Team Remedies for GDOT Default

17.6.1 Termination and Suspension

17.6.1.1 Subject to Article 19.9 (Exclusive Termination Rights), DB Team will have the right to suspend performance of the Work on account of a GDOT Default subject to any applicable notice and cure periods as set forth in Article 17.5.2 (Cure Periods).

17.6.1.2 Further, DB Team may upon written notice of not less than 15 days to GDOT following expiration of such applicable cure period, where such GDOT Default is continuing, exercise the right to terminate this Agreement and recover termination damages as more particularly set forth in, and subject to the terms and conditions of, Article 19.4 (Termination for GDOT Default, Suspension of Work, Force Majeure Event, or Materially Delayed Notice to Proceed).

17.6.2 Damages and Other Remedies

DB Team shall have and may exercise the following remedies upon the occurrence of a GDOT Default and expiration, without cure, of the applicable cure period:
17.6.2.1 If DB Team does not terminate this Agreement, then, subject to Article 17.6.4 (Limitations on Remedies), DB Team may treat the GDOT Default as a Compensation Event on the terms and conditions set forth in Article 14.2 (Compensation Events) and GDOT shall pay the full Compensation Amount and interest in accordance with Articles 14.2.7 and 14.2.8 (Limitations on Acceleration Costs);

17.6.2.2 If the GDOT Default is a failure to pay when due any undisputed portion of a progress payment owing under a Supplemental Agreement and GDOT fails to cure such GDOT Default within 30 days after receiving from DB Team written notice thereof, DB Team shall be entitled to suspend the Work under the Supplemental Agreement until the default is cured; and

17.6.2.3 Subject to Articles 17.6.4 (Limitations on Remedies) and Articles 19.9 (Exclusive Termination Rights), DB Team also shall be entitled to exercise any other remedies available under this Agreement or at Law or in equity, including offset rights to the extent and only to the extent available under Article 17.6.3 (Offset Rights). Subject to Articles 17.6.4 (Limitations on Remedies) and Articles 19.9 (Exclusive Termination Rights), each right and remedy of DB Team hereunder shall be cumulative and shall be in addition to every other right or remedy provided herein or now or hereafter existing at Law or in equity or by statute or otherwise, and the exercise or beginning of the exercise by DB Team of any one or more of any of such rights or remedies shall not preclude the simultaneous or later exercise by DB Team of any or all other such rights or remedies.

17.6.3 Offset Rights

DB Team may deduct and offset any claim amount owing to it, provided such claim amount has been liquidated through the Dispute Resolution Procedures, as provided in Article 17.7 (Dispute Resolution Procedures) or otherwise, from and against any amounts DB Team may owe to GDOT pursuant hereto.

17.6.4 Limitations on Remedies

17.6.4.1 Notwithstanding any other provision of the DB Documents and except as forth in Article 17.6.4.2, to the extent permitted by applicable Law, GDOT shall not be liable for punitive damages or any indirect, incidental or consequential damages, whether arising out of breach of this Agreement or any DB Documents, tort (including negligence) or any other theory of liability, and DB Team releases GDOT from any such liability.

17.6.4.2 The foregoing limitation on GDOT’s liability for consequential damages shall not apply to or limit any right of recovery DB Team may have respecting the following:

(a) Losses arising out of fraud, criminal conduct, intentional misconduct (which does not include any intentional GDOT Default), recklessness, bad faith or gross negligence on the part of GDOT;
(b) Losses arising out of GDOT Release(s) of Hazardous Materials or Pre-Existing Hazardous Materials;

(c) Any amounts GDOT may owe or be obligated to reimburse under the express provisions of this Agreement for Compensation Events or events of termination;

(d) Any other specified amounts GDOT may owe or be obligated to reimburse to DB Team under the express provisions of the DB Documents;

(e) Interest and charges that the DB Documents expressly state are due from GDOT to DB Team; and

(f) Any credits, deductions or offsets that the DB Documents expressly provide to DB Team against amounts owing GDOT.

17.6.4.3 The measure of compensation available to DB Team as set forth in this Agreement for a Compensation Event or an event of termination shall constitute the sole and exclusive monetary relief and damages available to DB Team from the State or GDOT arising out of or relating to such event; and DB Team irrevocably waives and releases any right to any other or additional damages or compensation from the State or GDOT. No award of compensation or damages shall be duplicative.

17.6.4.4 Without limiting the effect of Article 17.6.4.3, in the event GDOT wrongfully withholds an acceptance or consent required under this Agreement, or wrongfully issues an objection to or disapproval of a Submittal or other matter under this Agreement, DB Team’s sole remedies against GDOT shall be extensions of time to the extent provided in Article 14.1 for a Relief Event and damages to the extent provided in Article 14.2 for a Compensation Event.

17.6.5 Procedure for Payment of Judgments

Promptly after any final, non-appealable order or judgment awarding compensation or damages to DB Team, GDOT shall institute payment procedures as set forth in applicable Law.

17.7 Dispute Resolution Procedures

17.7.1 The Parties shall endeavor to resolve any Dispute that may arise between them through good faith negotiations and/or partnering in accordance with Volume 2, Section 2.1.3 (Partnering). If the Dispute is not resolved to the mutual satisfaction of all Parties within 30 days after written notification of such Dispute, or such longer time as is mutually agreed, the dispute shall next be submitted in accordance with Article 17.7.2.

17.7.2 If, despite good faith negotiations between the Parties, any Disputes are not resolved within 30 days after written notification of such Dispute, then the Dispute shall be submitted administratively to mediation as set forth below.
17.7.2.1 The Parties shall mutually select a private mediator to formally mediate the Disputes. If the Parties cannot mutually select a private mediator, GDOT shall select a mediator. Mediation shall normally be scheduled within 45 Calendar Days of notification of the decision by either party to submit the Dispute to mediation. GDOT and DB Team shall each pay one-half of the fees and administrative costs charged by the selected mediator.

17.7.2.2 The Parties, to provide economies of scale, may mutually agree in writing to submit one or more Disputes, whether or not factually related, to a single mediation. In such event, time periods may be extended by mutual written agreement to facilitate preparation for the mediation.

17.7.2.3 If the Dispute has not been settled within 45 Calendar Days following written notification of the Dispute to mediation or within such other period that the Parties may agree in writing, such Dispute may be submitted to litigation by either party in accordance with Article 17.7.4.

17.7.3 No litigation may be filed by either Party concerning any Dispute prior to using the procedure described in Article 17.7.2. This procedure is a condition precedent for any Party to commence a civil action for resolution of a Dispute.

17.7.4 All litigation between the Parties arising out of or pertaining to this Agreement or its breach shall be filed, heard and decided in the Superior Court of Fulton County, Georgia, which shall have exclusive jurisdiction and venue pursuant to O.C.G.A. § 50-21-1. Each Party shall bear its own attorney’s fees and costs in any dispute or litigation arising out of or pertaining to this Agreement, and no Party shall seek or accept an award of attorney’s fees or costs.

Article 18 RESERVED

Article 19 TERMINATION

19.1 Termination for Convenience

19.1.1 GDOT may terminate this Agreement, if GDOT determines, in its sole discretion, that a termination is in GDOT’s best interest (a “Termination for Convenience”). Termination of this Agreement shall not relieve GDOT, DB Team or any Guarantor or Surety of its obligation for any claims arising prior to termination.

19.1.2 GDOT may exercise Termination for Convenience by delivering to DB Team a written notice of termination for Convenience specifying the election to terminate. Termination for Convenience shall be effective as and when provided in Exhibit 20 (Terms for Termination Compensation).

19.1.3 In the event of a Termination for Convenience, DB Team will be entitled to compensation determined in accordance with Exhibit 20. Payment will be due and payable as and when provided in Exhibit 20.

19.1.4 If GDOT terminates this Agreement on grounds or in circumstances beyond GDOT’s termination rights specifically set forth in this Agreement, such
termination shall be deemed a Termination for Convenience for the purpose of determining the Termination Compensation due.

19.2 Reserved

19.3 Termination for DB Team Default

19.3.1 DB Team Defaults Triggering GDOT Termination Rights

The following DB Team Defaults (each a “Default Termination Event”), and no other DB Team Defaults, shall entitle GDOT, at its sole election, to terminate this Agreement, effective immediately upon delivery of written notice of termination to DB Team. DB Team agrees and acknowledges and stipulates that any of the following DB Team Defaults would result in material and substantial harm to GDOT’s rights and interests under this Agreement and therefore constitute a material DB Team Default justifying termination if not cured within the applicable cure period, if any.

19.3.1.1 The DB Team fails to achieve Substantial Completion by the Substantial Completion Deadline, as the same may be extended pursuant to this Agreement;

19.3.1.2 There occurs any other DB Team Default for which GDOT issues a Warning Notice under Article 17.2 (Warning Notice) or Article 17.3 (Other Effects of Warning Notice), and such DB Team Default is not fully and completely cured within the applicable cure period, if any, set forth in Article 17.2.2.1 or 17.3;

19.3.1.3 There occurs any DB Team Default under Article 17.1.1.11 or 17.1.1.12; or

19.3.1.4 The DB Team fails to diligently prosecute and adhere to the requirements of any remedial action plan as provided and accepted by GDOT pursuant to Article 17.3.5 (Remedial Action Plan Delivery and Implementation).

19.3.2 Compensation to DB Team

If GDOT issues notice of termination of this Agreement due to a Default Termination Event, or if DB Team terminates this Agreement on grounds or in circumstances beyond DB Team’s termination rights specifically set forth in this Agreement, DB Team will be entitled to compensation to the extent, and only to the extent, provided in Exhibit 20 (Terms for Termination Compensation). Payment shall be due and payable as and when provided in Exhibit 20.

19.3.3 Finality

If GDOT issues notice of termination of this Agreement due to a Default Termination Event, termination shall be effective and final immediately upon delivery of written notice as provided in Article 19.3.1 (DB Team Defaults Triggering GDOT Termination Rights) regardless of whether GDOT is correct in determining that GDOT has the right to terminate for DB Team Default. In the event it is determined that GDOT lacked such right, then such termination shall be treated as a Termination for Convenience as
provided in Article 19.1.4 for the purpose of determining the Termination Compensation due.

19.4 Termination for GDOT Default, Suspension of Work, Force Majeure Event, or Materially Delayed Notice to Proceed

19.4.1 In the event of a material GDOT Default under Article 17.5.1.1 (failure to pay money due) that remains uncured following notice and expiration of the applicable cure period under Article 17.5.2 (Cure Periods), DB Team may deliver to GDOT a further written notice setting forth such GDOT Default and warning GDOT that DB Team may elect to terminate this Agreement and if GDOT does not cure such GDOT Default within 60 days after the delivery of such notice with respect to a GDOT Default under Article 17.5.1.1. GDOT may avoid termination by effecting cure within such 60-day period. Failing such cure, DB Team shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to GDOT. In the event of such termination, DB Team will be entitled to compensation determined in accordance with Exhibit 20 (Terms for Termination Compensation). Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to the Dispute Resolution Procedures.

19.4.2 In the event (i) GDOT orders DB Team to suspend Work on all or any material portion of the Project for a reason other than those set forth in Article 17.3.7.1, or (ii) as a result of a Force Majeure Event, and such suspension of Work continues for a period of 180 consecutive days or more, DB Team shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to GDOT. In the event of such termination, DB Team will be entitled to compensation determined in accordance with Exhibit 20 (Terms for Termination Compensation). Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to the Dispute Resolution Procedures.

19.4.3 In the event GDOT, due to no fault of a DB Team-Related Entity or other than because the NEPA Finality Date has not occurred, does not issue NTP 1, NTP 2, or NTP 3 within 365 days after the anticipated issuance date set forth in Article 3.3 (Contract Time, Date of Commencement, and Notice to Proceed), DB Team shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to GDOT. In the event of such termination, DB Team will be entitled to compensation determined in accordance with Exhibit 20 (Terms for Termination Compensation). Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to the Dispute Resolution Procedures.

19.4.4 If DB Team issues notice of termination of this Agreement due to a material GDOT Default under Article 17.5.1.1, termination shall be effective and final immediately upon delivery as provided in Article 19.4.1 regardless of whether DB Team is correct in determining that it has the right to terminate for such GDOT Default. In the event it is determined that DB Team lacked such right, then such termination shall be treated as a termination due to material DB Team Default and Article 19.3.2 (Compensation to DB Team) shall govern the measure of the Termination Compensation.
19.5 Termination Procedures and Duties

19.5.1 Upon expiration of the Term or any earlier termination of this Agreement for any reason, including due to GDOT Default, the provisions of this Article 19.5 (Termination Procedures and Duties) shall apply. DB Team shall timely comply with such provisions independently of, and without regard to, the timing for determining, adjusting, settling and paying any amounts due DB Team or GDOT on account of termination.

19.5.2 In any case where notice of termination precedes the effective Early Termination Date:

19.5.2.1 DB Team shall continue performing the Work in accordance with, and without excuse from, all the standards, requirements and provisions of the DB Documents, and without curtailment of services, quality and performance;

19.5.2.2 Reserved

19.5.2.3 At GDOT’s option, GDOT may increase the level of its monitoring, inspection, sampling, measuring, testing, auditing and oversight of the Project and DB Team’s compliance with the obligations under the DB Documents, to such level as GDOT reasonably sees fit to protect against curtailment of services, quality and performance; and

19.5.2.4 Within three days after receipt of a notice of termination, DB Team shall meet and confer with GDOT for the purpose of developing an interim transition plan for the orderly transition of Work, demobilization and transfer of the Project control to GDOT. The Parties shall use diligent efforts to complete preparation of the interim transition plan within 15 days after the date DB Team receives the notice of termination. The Parties shall use diligent efforts to complete a final transition plan within 30 days after such date. The transition plan shall be in form and substance acceptable to GDOT in its good faith discretion and shall include and be consistent with the other provisions and procedures set forth in this Article 19.5 (Termination Procedures and Duties), all of which procedures DB Team shall immediately follow, regardless of any delay in preparation or acceptance of the transition plan.

19.5.3 On the Termination Date, or as soon thereafter as is possible, DB Team shall relinquish and surrender full control and possession of the Project to GDOT, and shall cause all persons and entities claiming under or through DB Team to do likewise, in at least the condition required by the Termination turnover requirements.

19.5.4 On the later of the Termination Date or the date DB Team relinquishes full control and possession, GDOT shall assume responsibility, at its expense, for the Project, subject to any rights to damages that GDOT has against DB Team where the termination is due to a Default Termination Event.

19.5.5 Reserved

19.5.6 Reserved
19.5.7 Within 30 days after notice of termination is delivered, DB Team shall provide GDOT with a true and complete list of all materials, goods, machinery, equipment, parts, supplies and other property in inventory or storage (whether held by DB Team or any Person or entity on behalf of or for the account of DB Team) for use in or respecting the Work or the Project, or on order or previously completed but not yet delivered from Suppliers for use in or respecting the Work or the Project. In addition, on or about the Termination Date, DB Team shall transfer title and deliver to GDOT or GDOT’s Authorized Representative, through bills of sale or other documents of title, as directed by GDOT, all such materials, goods, machinery, equipment, parts, supplies and other property.

19.5.8 DB Team shall take all action that may be necessary, or that GDOT may direct, for the protection and preservation of the Project, the Work and such materials, goods, machinery, equipment, parts, supplies and other property.

19.5.9 On or about the Termination Date, DB Team shall execute and deliver to GDOT the following, together with an executed bill of sale or other written instrument, in form and substance acceptable to GDOT, acting reasonably, assigning and transferring to GDOT all of DB Team’s right, title and interest in and to the following:

19.5.9.1 All completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, designs, Design Documents, Record Drawings, surveys, and other documents and information pertaining to the design or construction of the Project or the Utility Adjustments;

19.5.9.2 All samples, borings, boring logs, geotechnical data and similar data and information relating to the Project;

19.5.9.3 All books, records, reports, test reports, studies and other documents of a similar nature relating to the Work, the Project;

19.5.9.4 All data and information relating to the use of the Project, including all studies, reports, and other information provided that the transfer of any Intellectual Property shall be subject to Article 22.4 (Intellectual Property); and

19.5.9.5 All other work product and Intellectual Property used or owned by DB Team or any Affiliate relating to the Work, the Project, provided that the transfer of any Intellectual Property shall be subject to Article 22.4 (Intellectual Property).

19.5.10 Reserved

19.5.11 On or about the Termination Date, DB Team shall execute and deliver to GDOT a written assignment, in form and substance acceptable to GDOT, acting reasonably, of all DB Team’s right, title and interest in and to all warranties, claims and causes of action held by DB Team against third parties in connection with the Project or the Work.
19.5.12 DB Team shall otherwise assist GDOT in such manner as GDOT may require prior to and for a reasonable period following the Termination Date to ensure the orderly transition of the Project and its management to GDOT.

19.6 Reserved

19.7 Contracts and Agreements

19.7.1 Regardless of GDOT’s prior actual or constructive knowledge thereof, no contract or agreement to which DB Team is a party (unless GDOT is also a party thereto) as of the Termination Date shall bind GDOT, unless GDOT elects to assume such contract or agreement in writing. Except in the case of GDOT’s express written assumption, no such contract or agreement shall entitle the contracting party to continue performance of work or services respecting the Project following DB Team’s relinquishment to GDOT of possession and control of the Project, or to any claim, legal or equitable, against GDOT.

19.8 Liability After Termination; Final Release

19.8.1 No termination of this Agreement shall excuse either Party from any liability arising out of any default as provided in this Agreement that occurred prior to termination. Notwithstanding the foregoing, any termination of this Agreement shall automatically extinguish any claim of DB Team to payment of Compensation Amounts for adverse cost and revenue impacts accruing after the Early Termination Date from Compensation Events that occurred prior to termination.

19.8.2 If this Agreement is terminated under Article 19.1 (Termination for Convenience), 19.3.1 (DB Team Defaults Triggering GDOT Termination Rights), 19.4 (Termination for GDOT Default, Suspension of Work, Force Majeure Event, or Materially Delayed Notice to Proceed), or 19.11 (Termination by Court Ruling), then GDOT’s payment to DB Team of the amounts required thereunder (if any) shall constitute full and final satisfaction of, and upon payment GDOT shall be forever released and discharged from, any and all claims, causes of action, suits, demands and Losses, known or unknown, suspected or unsuspected, that DB Team may have against GDOT arising out of or relating to this Agreement or termination thereof, or the Project, are unresolved at the time of such payment and are not related to termination or Termination Compensation. Upon such payment, DB Team shall execute and deliver to GDOT all such releases and discharges as GDOT may reasonably require to confirm the foregoing, but no such written release and discharge shall be necessary to give effect to the foregoing satisfaction and release.

19.9 Exclusive Termination Rights

This Article 19 (Termination), together with the express provisions on termination set forth in Articles 17.3.1 (Termination) and Articles 17.6.1 (Termination and Suspension), contain the entire and exclusive provisions and rights of GDOT and DB Team regarding termination of this Agreement, and any and all other rights to terminate at law or in equity are hereby waived to the maximum extent permitted by Law.
19.10 Access to Information

DB Team shall conduct all discussions and negotiations to determine any Termination Compensation, and shall share with GDOT all data, documents and information pertaining thereto, on an Open Book Basis.

19.11 Termination by Court Ruling

19.11.1 Except in the circumstances described in Exhibit 20 (Terms for Termination Compensation), Termination by Court Ruling means, and becomes effective upon, (a) issuance of a final order by a court of competent jurisdiction to the effect that this Agreement is void and/or unenforceable or impossible to perform in its entirety, (b) issuance of a final order by a court of competent jurisdiction upholding the binding effect on DB Team or GDOT of a Change in Law that causes impossibility of performance of a fundamental obligation by DB Team or GDOT under the DB Documents or impossibility of exercising a fundamental right of DB Team or GDOT under the DB Documents, (c) occurrence of the circumstances described in Article 24.13.2, or (d) issuance of a final order by a court of competent jurisdiction to the effect that a material provision under the DB Documents is void and/or unenforceable so as to deprive DB Team of its ability to exercise a fundamental right granted to DB Team under the DB Documents and such inability resulting from such order cannot be otherwise remedied through a Compensation Event, Relief Event or other contractual remedy. The final court order shall be treated as the notice of termination.

19.11.2 Once Termination by Court Ruling becomes effective, GDOT and DB Team shall cooperate to implement Articles 19.5 (Termination Procedures and Duties), 19.8 (Liability After Termination; Final Release), and 19.10 (Access to Information).

19.11.3 Notwithstanding Article 19.11.2, if a Termination by Court Ruling occurs, DB Team shall be entitled to compensation to the extent, and only to the extent, provided in Exhibit 20 (Terms for Termination Compensation). Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to the Dispute Resolution Procedures.

Article 20 RESERVED

Article 21 ASSIGNMENT AND TRANSFER

21.1 Restrictions on Assignment, Subletting and Other Transfers

21.1.1 DB Team shall not voluntarily or involuntarily sell, assign, convey transfer, pledge, mortgage or otherwise encumber the DB Team’s Interest or any portion thereof without GDOT’s prior written acceptance (including under any Direct Agreement), except:

21.1.1.1 To any entity that is under the same ultimate management control as DB Team.
21.1.2 DB Team shall not grant any other special occupancy or use of the Project to any other Person that is not in the ordinary course of DB Team performing the Work, without GDOT's prior written acceptance.

21.1.3 Any sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, or grant of other special occupancy or use in violation of this provision shall be null and void ab initio and GDOT may, by Warning Notice, declare any such attempted action to be a material DB Team Default.

21.2 Standards and Procedures for GDOT Acceptance

21.2.1 Where GDOT’s prior acceptance is required for a proposed sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, sublease or grant of other special occupancy or use, or for any proposed Change of Control, GDOT may withhold or condition its acceptance in its sole discretion. Any such decision of GDOT to withhold consent shall be final, binding and not subject to the Dispute Resolution Procedures.

21.2.2 Thereafter, GDOT shall not unreasonably withhold its acceptance thereto. Among other reasonable factors and considerations, it shall be reasonable for GDOT to withhold its acceptance if:

21.2.2.1 DB Team fails to demonstrate to GDOT’s reasonable satisfaction that the proposed assignee, sublessee, grantee or transferee, or the proposed transferee of rights and/or equity interests that would amount to a Change of Control (for purposes of these Articles 21.2 (Standards and Procedures for GDOT Acceptance) through 21.5 (Change of Organization or Name), collectively the “Transferee”), and its proposed contractors (a) have the financial resources, qualifications and experience to timely perform DB Team’s obligations under the DB Documents and Principal Project Documents and (b) are in compliance with GDOT’s rules, regulations and adopted written policies regarding organizational conflicts of interest;

21.2.2.2 Less than all of DB Team’s Interest is proposed to be assigned, conveyed, transferred, pledged, mortgaged, encumbered, or granted; or

21.2.2.3 At the time of the proposed sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, sublease or grant of other special occupancy or use requiring GDOT’s prior acceptance, or of any proposed Change of Control, there exists any uncured DB Team Default or any event or circumstance that with the lapse of time, the giving of notice or both would constitute a DB Team Default, unless GDOT receives from the proposed Transferee assurances of cure and performance acceptable to GDOT in its good faith discretion.

21.2.3 GDOT will accept or disapprove within 30 days after it receives from DB Team a Submittal consisting of a request for acceptance together with (a) a reasonably detailed description of the proposed transaction, (b) such information, evidence and supporting documentation as GDOT may request concerning the identity, financial resources, qualifications, experience and potential conflicts of interest of the proposed
Transferee and its proposed contractors and (c) such evidence of organization and authority, and such incumbency certificates, certificates regarding debarment or suspension, and other certificates, representations and warranties as GDOT may reasonably request. GDOT will evaluate the identity, financial resources, qualifications, experience and potential conflicts of interest using the same standards and criteria that it is then currently applying, or if there is no current application, then the same standards and criteria it most recently applied, to the evaluation of Persons responding to GDOT requests for qualifications for concession or similar agreements for comparable projects and facilities.

21.2.4 If for any reason GDOT does not act within such 30-day period, or any extension thereof by mutual agreement of the Parties, then the provisions of Article 6.3.4.2 shall apply.

21.3 Assignment by GDOT

GDOT may assign all or any portion of its rights, title and interests in and to the DB Documents, payment and performance bond(s), guarantees, and other security for payment or performance, (a) without DB Team’s consent, to any other Person that succeeds to the governmental powers and authority of GDOT, and (b) to others with the prior written consent of DB Team.

21.4 Notice and Assumption

21.4.1 Assignments and transfers of the DB Team’s Interest permitted under this Article 21 (Assignment and Transfer) (other than pursuant to Article 21.1.1.1) or otherwise accepted in writing by GDOT shall be effective only upon GDOT’s receipt of written notice of the assignment or transfer and a written recordable instrument executed by the Transferee, in form and substance acceptable to GDOT, in which the Transferee, without condition or reservation, assumes all of DB Team’s obligations, duties and liabilities under the DB Documents and agrees to perform and observe all provisions thereof applicable to DB Team.

21.4.2 Each Transferee, including any Person who acquires the DB Team’s Interest pursuant to foreclosure, transfer in lieu of foreclosure or similar proceeding, shall take the DB Team’s Interest subject to, and shall be bound by, the Management Plans, the Key Contracts, the Standard Utility Agreements, all agreements between the transferor and railroads, the Governmental Approvals, and all agreements between the transferor and Governmental Entities with jurisdiction over the Project or the Work, except to the extent otherwise accepted by GDOT in writing in its good faith discretion.

21.4.3 Except with respect to assignments and transfers pursuant to foreclosure, transfer in lieu of foreclosure or similar proceeding, the transferor and Transferee shall give GDOT written notice of the assignment not less than 30 days prior to the effective date thereof.

21.5 Change of Organization or Name

21.5.1 DB Team shall not change the legal form of its organization in a manner that adversely affects GDOT’s rights, protections and remedies under the DB Documents without the prior written acceptance of GDOT, which consent may be granted or withheld in GDOT’s sole discretion.
21.5.2 In the event either Party changes its name, such Party agrees to promptly furnish the other Party with written notice of change of name and appropriate supporting documentation.

Article 22 RECORDS AND AUDITS; INTELLECTUAL PROPERTY

22.1 Maintenance and Inspection of Records

22.1.1 DB Team shall keep and maintain at a single location as approved by GDOT all books, records and documents relating to the Project, Utility Adjustments or Work, including copies of all original documents delivered to GDOT, as set forth in Exhibit 24. DB Team shall keep and maintain such books, records and documents in accordance with applicable provisions of the DB Documents, Volume 2, Section 2 (Project Management), and of the Management Plans, and in accordance with Good Industry Practice. DB Team shall notify GDOT where such records and documents are kept.

22.1.2 DB Team shall make all its books, records and documents available for inspection by GDOT, its representatives and legal counsel at DB Team’s principal offices in Georgia, at all times during normal business hours, without charge. GDOT may conduct any such inspection upon 48 hours’ prior written notice, or unannounced and without prior notice where there is good faith suspicion of fraud. The right of inspection includes the right to make extracts and take notes. The provisions of this Article 22.1.2 are subject to the following:

22.1.2.1 DB Team reserves the right to assert exemptions from disclosure for information that would be exempt under applicable State Law from discovery or introduction into evidence in legal actions; and

22.1.2.2 Unless otherwise lawfully required by the FHWA, federal Law or the Open Government Laws, DB Team may make available copies of books, records and documents containing trade secrets and confidential proprietary information with such information redacted. Unless otherwise lawfully required by the FHWA, federal Law or the Open Government Laws, GDOT shall have no right to make extracts of such trade secrets and confidential proprietary information except in connection with resolution of Disputes.

22.1.2.3 DB Team shall retain records and documents for a minimum of five years after the date the record or document is generated; provided that if the DB Documents or applicable Law specify any longer time period for retention of particular records, such time period shall control. With respect to records and documents generated prior to Final Acceptance, the time period for retention shall commence upon Final Acceptance. Notwithstanding the foregoing, all records which relate to any actions brought forth under the Dispute Resolution Procedures shall be retained and made available until any later date that such actions are finally resolved. Refer to Attachment 1 to Exhibit 8 regarding applicable Federal Requirements.
22.2 Audits

22.2.1 GDOT shall have such rights to review and audit DB Team, its Contractors and their respective books and records as and when GDOT deems necessary for purposes of verifying compliance with the DB Documents and applicable Law. Without limiting the foregoing, GDOT shall have the right to audit DB Team’s Management Plans and compliance therewith, including the right to inspect Work and/or activities and to verify the accuracy and adequacy of the Management Plans and its component parts, plans and other documentation. GDOT may conduct any such audit of books and records upon 48 hours’ prior written notice, or unannounced and without prior notice where there is good faith suspicion of fraud.

22.2.2 All claims filed against GDOT shall be subject to audit at any time following the filing of the claim. The audit may be performed by employees of GDOT or by an auditor under contract with GDOT. Notice shall not be required before commencing any audit prior to 60 days after the expiration of the term of this Agreement. Thereafter, GDOT shall provide 20 days’ notice to DB Team, any Contractors or their respective agents before commencing an audit. DB Team, Contractors or their agents shall provide adequate facilities, acceptable to GDOT, for the audit during normal business hours. DB Team, Contractors or their agents shall cooperate with the auditors. Failure of DB Team, Contractors or their agents to maintain and retain sufficient books and records to allow the auditors to verify all or a portion of the claim or to permit the auditor access to such books and records shall constitute a waiver of the claim and shall bar any recovery thereunder. At a minimum, the auditors shall have available to them the following documents relating to the claim:

(a) Daily time sheets and supervisor’s daily reports;
(b) Union agreements;
(c) Insurance, welfare, and benefits records;
(d) Payroll registers;
(e) Earnings records;
(f) Payroll tax forms;
(g) Material invoices and requisitions;
(h) Material cost distribution work sheet;
(i) Equipment records (list of company equipment, rates, etc.);
(j) Contractors’ (including Suppliers’) invoices;
(k) Contractors’ and agents’ payment certificates;
(l) Canceled checks (payroll and Suppliers);
(m) Job cost report;
(n) Job payroll ledger;

(o) General ledger;

(p) Cash disbursements journal;

(q) All documents that relate to each and every claim together with all documents that support the amount of damages as to each claim; and

(r) Work sheets used to prepare the claim establishing (a) the cost components of the claim, including labor, benefits and insurance, materials, equipment, Contractors, all documents that establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals, and (b) the lost revenue components of the claim.

22.2.3 Full compliance by DB Team with the provisions of this Article 22.2 (Audits) is a contractual condition precedent to DB Team’s right to seek relief on a Dispute under Article 17.7 (Dispute Resolution Procedures).

22.2.4 Any rights of the FHWA to review and audit DB Team, its Contractors and their respective books and records are set forth in Attachment 1 to Exhibit 8 (Federal Requirements).

22.2.5 GDOT’s right of audit include the right to observe the business operations of DB Team and its Contractors to confirm the accuracy of books and records.

22.2.6 DB Team represents and warrants the completeness and accuracy in all material respects of all information it or its agents provides in connection with GDOT audits, and shall cause all Contractors other than Governmental Entities acting as Contractors to warrant the completeness and accuracy in all material respects of all information such Contractors provide in connection with GDOT audits.

22.2.7 Nothing in the DB Documents shall in any way limit the constitutional and statutory powers, duties and rights of elected State officials, including the independent rights of the State Auditor, in carrying out his or her legal authority. DB Team understands and acknowledges that (a) the State auditor may conduct an audit or investigation of any entity receiving funds from the State directly under this Agreement or indirectly through a Contract, (b) acceptance of funds directly under this Agreement or indirectly through a Contract acts as acceptance of the authority of the State auditor to conduct an audit or investigation in connection with those funds, and (c) an entity that is the subject of an audit or investigation must provide the State auditor with access to any information the State auditor considers relevant to the investigation or audit.

22.3 Open Government Laws and Freedom of Information Act

22.3.1 DB Team acknowledges and agrees that all Submittals, records, documents, drawings, Plans, specifications and other materials in GDOT’s possession, including materials submitted by DB Team to GDOT (whether directly or indirectly), are
subject to the provisions of the Open Government Laws, subject only to certain exceptions and exemptions contained therein. DB Team also acknowledges that, pursuant to O.C.G.A. § 50-18-70(a), “records received or maintained by a private person, firm, corporation, or other private entity in the performance of a service or function for or on behalf of an agency, a public agency, or a public office shall be subject to disclosure to the same extent that such records would be subject to disclosure if received or maintained by such agency, public agency, or public office.” If DB Team believes information or materials submitted or otherwise made available to GDOT constitute trade secrets, proprietary information or other information that is not subject to the Open Government Laws or is excepted from disclosure under the Open Government Laws, DB Team shall be solely responsible for specifically and conspicuously designating that information by placing “CONFIDENTIAL” in the center header of each such document or page affected, as it determines to be appropriate. Any specific proprietary information, trade secrets or confidential commercial and financial information shall be clearly identified as such, and shall be accompanied by a concise statement of reasons supporting the claim. Nothing contained in this Article 22.3.1 shall modify or amend requirements and obligations imposed on GDOT by the Open Government Laws or other applicable Law, and the provisions of the Open Government Laws or other Laws shall control in the event of a conflict between the procedures described above and the applicable Law. DB Team is advised to contact legal counsel concerning such Law and its application to DB Team.

22.3.2 If GDOT receives a request for public disclosure of materials marked “CONFIDENTIAL,” GDOT (as the case may be) will endeavor to notify DB Team of the request. DB Team may seek a protective order or other appropriate remedy. If GDOT determines in good faith that the materials identified as “CONFIDENTIAL” are not exempt from the Open Government Laws, GDOT will release the requested information within the applicable statutory time period, unless otherwise directed by an order of a court of competent jurisdiction. GDOT shall make the final determination regarding whether the requested information is to be disclosed or withheld.

22.3.3 In the event of any proceeding or litigation concerning the disclosure of any material submitted by DB Team to GDOT, DB Team shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole cost and risk; provided, however, that the Attorney General shall represent GDOT, which will participate in the litigation in such manner as they each may deem necessary or desirable. Except in the case of GDOT’s voluntary intervention in litigation, DB Team shall pay and reimburse GDOT (as the case may be) within 30 days after receipt of written demand and reasonable supporting documentation for all costs and fees, including attorneys’ fees and costs, GDOT incurs in connection with any litigation, proceeding or request for disclosure.

22.3.4 DB Team further acknowledges and agrees that all Submittals, records, documents, drawings, Plans, specifications and other materials in FHWA’s possession may also be subject to disclosure under federal Law, including the Freedom of Information Act. DB Team’s rights and obligations with respect to such disclosure shall be in accordance with such federal Law.
22.4 Intellectual Property

22.4.1 All Proprietary Intellectual Property, including with respect to Technology Enhancements, Source Code and Source Code Documentation, shall remain exclusively the property of DB Team or its Affiliates or Contractors that supply the same, notwithstanding any delivery of copies thereof to GDOT.

22.4.2 GDOT shall have and is hereby granted a nonexclusive, transferable, irrevocable, fully paid up right and license to use, reproduce, modify, adapt and disclose, and sublicense others to use, reproduce, modify, adapt and disclose, the Proprietary Intellectual Property of DB Team, including with respect to Technology Enhancements, Source Code and Source Code Documentation, solely in connection with the Project and any Highway, tolled or not tolled, owned and operated by GDOT or a State or regional Governmental Entity.

22.4.3 Subject to the license and rights granted to GDOT pursuant to Article 22.4.2, GDOT shall not at any time sell any Proprietary Intellectual Property of DB Team or use, reproduce, modify, adapt and disclose, or allow any party to use, reproduce, modify, adapt and disclose, any such Proprietary Intellectual Property for any other purpose not consistent with Article 22.4.2 above.

22.4.4 The right to transfer the license is limited to any Governmental Entity that succeeds to the power and authority of GDOT generally or with respect to the Project.

22.4.5 The right to sublicense is limited to State or regional Governmental Entities that own or operate a Highway or other road, tolled or not tolled, and to the concessionaires, contractors, subcontractors, employees, attorneys, consultants and agents that are retained by or on behalf of GDOT or any such State or regional Governmental Entity in connection with the Project or another Highway or other road, tolled or untolled. All such sublicenses shall be subject to Article 22.4.6.

22.4.6 Subject to Article 22.3 (Open Government Laws and Freedom of Information Act), GDOT shall:

22.4.6.1 Not disclose any Proprietary Intellectual Property of DB Team to any Person other than authorized transferees and sublicensesees who agree to be bound by any confidentiality obligations of GDOT relating thereto;

22.4.6.2 Enter into a commercially reasonable confidentiality agreement if requested by DB Team with respect to the licensed Proprietary Intellectual Property; and

22.4.6.3 Include, or where applicable require such State or regional Governmental Entity to include, in the contract with the sublicensee its covenant to employ sound business practices no less diligent than those used for its own confidential information, and no less diligent than required by commercially reasonable standards of confidentiality, to protect all Proprietary Intellectual Property of DB Team and other materials provided under the sublicense against disclosure to third parties not in receipt of a sublicense, and to use the sublicense only for the permitted purposes.
22.4.7 Notwithstanding any contrary provision of the DB Documents, in no event shall GDOT or any of their respective directors, officers, employees, consultants or agents be liable to DB Team, any Affiliate or any Contractor for any damages, including loss of profit, arising out of breach of the duty of confidentiality set forth in Article 22.4.6 if such breach is not the result of gross negligence or intentional misconduct or is required under the provisions of the Open Government Laws or a court order or other legal requirement.

22.4.8 DB Team shall continue to have a full and complete right to use any and all duplicates or other originals of its Proprietary Intellectual Property in any manner it chooses.

22.4.9 With respect to any Proprietary Intellectual Property, including with respect to Technology Enhancements, Source Code and Source Code Documentation, owned by a Person other than DB Team, including any Affiliate, and other than GDOT or a Governmental Entity acting as a Contractor, DB Team shall obtain from such owner, concurrently with execution of any contract, subcontract or purchase order with such owner or with the first use or adaptation of the Proprietary Intellectual Property in connection with the Project, for DB Team and GDOT, nonexclusive, transferable, irrevocable, fully paid up licenses to use, reproduce, modify, adapt and disclose such Proprietary Intellectual Property solely in connection with the Project and any Highway, tolled or not tolled, owned and operated by GDOT or a State or regional Governmental Entity, of at least identical scope, purpose, duration and applicability as the license granted under Article 22.4.1. The foregoing requirement shall not apply, however, to mass-marketed software products (sometimes referred to as “shrink wrap software”) owned by such a Person where such a license cannot be extended to GDOT using commercially reasonable efforts. The limitations on sale, transfer, sublicensing and disclosure by GDOT set forth in Articles 22.4.3 through 22.4.6 shall also apply to GDOT’s licenses in such Proprietary Intellectual Property.

22.5 Reserved

Article 23  FEDERAL REQUIREMENTS

23.1 Compliance with Federal Requirements

DB Team shall comply and require its Contractors to comply with all Federal Requirements applicable to transportation projects that receive federal credit or funds, including those set forth in Exhibit 8 (Federal Requirements). In the event of any conflict between any applicable Federal Requirements and the other requirements of the DB Documents, the Federal Requirements shall prevail, take precedence and be in force over and against any such conflicting provisions.

23.2 Role of and Cooperation with FHWA

DB Team acknowledges and agrees that FHWA will have certain approval rights with respect to the Project, including the right to provide certain oversight and technical services with respect to the Work. DB Team shall cooperate with FHWA in the reasonable exercise of FHWA’s duties and responsibilities in connection with the Project and shall provide such assistance and information as may be required by GDOT to comply with FHWA reporting requirements.
Article 24  MISCELLANEOUS

24.1 Taxes

DB Team shall pay, prior to delinquency, all applicable Taxes. DB Team shall have no right to a Compensation Event or a Relief Event due to its misinterpretation of Laws respecting Taxes or incorrect assumptions regarding applicability of Taxes.

24.2 Amendments

The DB Documents may be amended only by a written instrument duly executed by the Parties or their respective successors or assigns, except to the extent expressly provided otherwise in this Agreement.

24.3 Waiver

24.3.1 No waiver of any term, covenant or condition of this Agreement or the other DB Documents shall be valid unless in writing and signed by the obligee Party.

24.3.2 The exercise by a Party of any right or remedy provided under this Agreement or the other DB Documents shall not waive or preclude any other or further exercise thereof or the exercise of any other right or remedy. No waiver by any Party of any right or remedy under this Agreement or the other DB Documents shall be deemed to be a waiver of any other or subsequent right or remedy under this Agreement or the other DB Documents. The consent by one Party to any act by the other Party requiring such consent shall not be deemed to render unnecessary the obtaining of consent to any subsequent act for which consent is required, regardless of whether similar to the act for which consent is given.

24.3.3 Except as provided otherwise in the DB Documents, no act, delay or omission done, suffered or permitted by one Party or its agents shall be deemed to waive, exhaust or impair any right, remedy or power of such Party hereunder, or to relieve the other Party from the full performance of its obligations under this Agreement or the other DB Documents.

24.3.4 Either Party’s waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the DB Documents at any time shall not in any way limit or waive that Party’s right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision, any course of dealing or custom of the trade notwithstanding. Furthermore, if the Parties make and implement any interpretation of the DB Documents without documenting such interpretation by an instrument in writing signed by both Parties, such interpretation and implementation thereof will not be binding in the event of any future Disputes.

24.3.5 Subject to Article 14.2.7, the acceptance of any payment or reimbursement by a Party shall not waive any preceding or then-existing breach or default by the other Party of any term, covenant or condition of this Agreement or the other DB Documents, other than the other Party’s prior failure to pay the particular amount or part thereof so accepted, regardless of the paid party’s knowledge of such preceding or then-existing breach or default at the time of acceptance of such payment or reimbursement. Nor shall such acceptance continue, extend or affect: (a) the service
of any notice, any Disputes or final judgment; (b) any time within which the other Party is required to perform any obligation; or (c) any other notice or demand.

24.4 Independent Contractor

24.4.1 DB Team is an independent contractor, and nothing contained in the DB Documents shall be construed as constituting any relationship with GDOT other than that of an independent contractor under this Agreement.

24.4.2 Nothing in the DB Documents is intended or shall be construed to create any partnership, joint venture or similar relationship between GDOT and DB Team; and in no event shall either Party take a position in any tax return or other writing of any kind that a partnership, joint venture or similar relationship exists. While the term “public-private partnership” may be used on occasion to refer to contractual relationships of the type hereby created, the Parties do not thereby express any intention to form or hold themselves out as a de jure or de facto partnership, joint venture or similar relationship, to share net profits or net losses, or to give GDOT control or joint control over DB Team’s financial decisions or discretionary actions concerning the Project and Work.

24.4.3 In no event shall the relationship between GDOT and DB Team be construed as creating any relationship whatsoever between GDOT and DB Team’s employees. Neither DB Team nor any of its employees is or shall be deemed to be an employee of GDOT. Except as otherwise specified in the DB Documents, DB Team has sole authority and responsibility to employ, discharge and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Contractors and for all other Persons that DB Team or any Contractor hires to perform or assist in performing the Work.

24.5 Successors and Assigns

The DB Documents shall be binding upon and inure to the benefit of GDOT and DB Team and their permitted successors, assigns and legal representatives.

24.6 Designation of Representatives; Cooperation with Representatives

24.6.1 GDOT and DB Team shall each designate an individual or individuals who shall be authorized to make decisions and bind the Parties on matters relating to the DB Documents (“Authorized Representative”). In addition, for purposes of Project administration and oversight to be performed by GDOT as provided in this Agreement, GDOT shall designate an individual or individuals who shall be authorized to make decisions and bind GDOT and upon such person(s) direction DB Team may rely. Exhibit 22 provides the initial Authorized Representative designations. A Party may change such designations by a subsequent writing delivered to the other Party in accordance with Article 24.11 (Notices and Communications). For purposes of this Agreement, the Parties, except where expressly stated to the contrary, all communications and deliveries, including submittals, shall be through the respective Authorized Representative for each party.

24.6.2 DB Team shall cooperate with GDOT and all representatives of GDOT designated as described above.
24.7 Survival

DB Team’s and GDOT’s representations, covenants, warranties, the dispute resolution provisions contained in Article 17.7 (Dispute Resolution Procedures), the express obligations of the Parties following termination, and all other provisions which by their inherent character should survive expiration or earlier termination of this Agreement and/or completion of the Work shall survive the expiration or earlier termination of this Agreement and/or the completion of the Work. The provisions of Article 17.7 shall continue to apply after expiration or earlier termination of this Agreement to all Disputes between the parties arising out of the DB Documents.

24.8 Limitation on Third-Party Beneficiaries

24.8.1 It is not intended by any of the provisions of the DB Documents to create any third-party beneficiary hereunder or to authorize anyone not a Party hereto to maintain a suit for personal injury or property damage pursuant to the terms or provisions hereof, except to the extent provided in Article 24.9.2 and other specific provisions (such as the warranty and indemnity provisions) that identify third parties and state that they are entitled to benefits hereunder. Except as otherwise provided in this Article 24.8, the duties, obligations and responsibilities of the Parties to the DB Documents with respect to third parties shall remain as imposed by Law. The DB Documents shall not be construed to create a contractual relationship of any kind between GDOT and a Contractor or any Person other than DB Team.

24.8.2 GDOT shall be a third-party beneficiary, and entitled to the benefits, with respect to the rights under the DB Documents related to the following:

24.8.2.1 Oversight, review, inspection, testing, monitoring, acceptance, and enforcement of DB Team’s obligations to perform the design and construction of the Project in accordance with the DB Documents and applicable Law.

24.8.2.2 Review, audit, inspection and copying of data, information, documents, books and records of DB Team and any other DB Team-Related Entity.

24.8.2.3 Step in rights upon the occurrence of a DB Team Default.

24.9 No Personal Liability of GDOT Employees; No Tort Liability

24.9.1 GDOT’s officers, employees, representatives are acting solely as agents and representatives of such respective entities, as applicable, when carrying out the provisions of or exercising the power or authority granted to them under this Agreement and the DB Documents. They shall not be liable either personally or as employees of GDOT for actions in their ordinary course of employment.

24.9.2 The Parties agree to provide to each other with written notice of any claim which such Party may receive from any third party relating in any way to the matters addressed in this Agreement, and shall otherwise provide notice in such form and within such period as is required by Law.
24.10 Governing Law

The DB Documents shall be governed by and construed in accordance with the laws of the State of Georgia.

24.11 Notices and Communications

24.11.1 Notices under the DB Documents shall be in writing and: (a) delivered personally; (b) sent by certified mail, return receipt requested; (c) sent by a recognized overnight mail or courier service, with delivery receipt requested, or (d) sent by facsimile or e-mail communication followed by a hard copy and with receipt confirmed by telephone, to the following addresses (or to such other address as may from time to time be specified in writing by such Person):

24.11.2 All notices, correspondence and other communications to DB Team shall be delivered to the following address or as otherwise directed by DB Team’s Authorized Representative:

_____________________________________
_____________________________________
_____________________________________
Telephone: _________________
Facsimile: _________________
E-mail: _________________

24.11.3 All notices, correspondence, submittals, transmittals and any other communications shall be directed to GDOT’s Authorized Representative. All notices, correspondence, submittals, transmittals, and other communications to GDOT shall be marked as regarding the “I-85 Widening North of SR 53 to North of SR 11/US 129 Project” and shall be delivered to the following addresses or as otherwise directed by GDOT’s Authorized Representative:

Darryl D. VanMeter, P.E.
Georgia Department of Transportation
Office of Innovative Delivery
600 West Peachtree Street, Floor 19
Atlanta, Georgia 30308
E-mail: dvanmeter@dot.ga.gov

In addition, copies of all notices regarding Disputes, and termination and default notices shall be delivered to the following person:

Georgia Department of Transportation
Office of General Counsel
600 West Peachtree Street, Suite 2300
Atlanta, Georgia 30308
E-mail: mcline@dot.ga.gov

24.11.4 Notices shall be deemed received when actually received in the office of the addressee (or by the addressee if personally delivered) or when delivery is refused, as shown on the receipt of the U.S. Postal Service, private carrier or other Person.
making the delivery. Notwithstanding the foregoing, notices sent by facsimile after 12:00 p.m. Eastern Standard or Daylight Time (as applicable) and all other notices received after 12:00 p.m. shall be deemed received on the first Business Day following delivery (that is, in order for a fax to be deemed received on the same day, at least the first page of the fax must have been received before 12:00 p.m.). Any technical or other communications pertaining to the Work shall be conducted by DB Team’s Authorized Representative and technical representatives designated by GDOT.

24.12 Integration of DB Documents

GDOT and DB Team agree and expressly intend that, subject to Article 24.13 (Severability), and other DB Documents constitute a single, non-severable, integrated agreement whose terms are interdependent and non-divisible.

24.13 Severability

24.13.1 If any clause, provision, section or part of this Agreement or the other DB Documents or any other Principal Project Document is ruled invalid (including invalid due to Change in Law) by a court having proper jurisdiction, then the Parties shall: (a) promptly meet and negotiate a substitute for such clause, provision, section, or part, which shall, to the greatest extent legally permissible, effect the original intent of the Parties; and (b) if necessary or desirable, apply to the court or other decision maker (as applicable) which declared such invalidity for an interpretation of the invalidated portion to guide the negotiations. The invalidity or unenforceability of any such clause, provision, section, or part shall not affect the validity or enforceability of the balance of the DB Documents or such other Principal Project Documents, which shall be construed and enforced as if the DB Documents or such other Principal Project Documents did not contain such invalid or unenforceable clause, provision, section, or part.

24.13.2 If after the efforts required by Article 24.13.1, the Parties mutually agree that without the section or part of the DB Documents or such other Principal Project Documents that the court ruled to be invalid, there is no interpretation or reformation of the DB Documents or such other Principal Project Documents that can reasonably be adopted which will return the Parties to the benefits of their original bargain, the Parties can mutually agree to treat the court order as a Termination by Court Ruling pursuant to Article 19.11 (Termination by Court Ruling).

24.14 Usury Savings

The DB Documents are subject to the express condition that at no time shall either Party be obligated or required to pay interest on any amount due the other Party at a rate which could subject the other Party to either civil or criminal liability as a result of being in excess of the maximum non-usurious interest rate permitted by Georgia Law (the “maximum legal rate”), if any. If, by the terms of the DB Documents either Party at any time is obligated to pay interest on any amount due in excess of the maximum legal rate, then such interest shall be deemed to be immediately reduced to the maximum legal rate and all previous payments in excess of the maximum legal rate shall be deemed to have been payments in reduction of the principal amount due and not on account of the interest due. All sums paid or agreed to be paid to a Party for the use, forbearance, or detention of the sums due that Party under the DB Documents shall, to the extent permitted by applicable Georgia Law, be amortized, prorated, allocated, and spread throughout the full period over which the interest accrues until payment in full so that the
rate or amount of interest on account of the amount due does not exceed the maximum legal rate in effect from time to time during such period. If after the foregoing adjustments a Party still holds interest payments in excess of the maximum legal rate, it shall promptly refund the excess to the other Party.

24.15 Boycott of Israel

Pursuant to O.C.G.A. Sec. 50-5-85, DB Team certifies that it is not currently engaged in, and agrees that for the duration of the Project, it will not engage in a boycott of Israel.

24.16 Entire Agreement

This Agreement and the other DB Documents contain the entire understanding of the Parties with respect to the subject matter thereof and supersede all prior agreements, understandings, statements, representations and negotiations between the Parties with respect to their subject matter.

24.17 Counterparts

This instrument may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

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<th>CONTRACT IDENTIFICATION NUMBER</th>
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<th>DESCRIPTION OF IMPROVEMENTS AND FACILITY</th>
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<td>I-85 Widening from North of SR 53 to North of SR 11/US 129 Project</td>
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<th>CONTRACT SUM</th>
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[Signature Page Immediately Follows]
IN WITNESS WHEREOF, the Parties intending to be legally bound, have set their hands and affixed their seals, and have executed this Agreement, including the requirements of the DB Documents, as of the date first above written.

[DB TEAM]                                                                 GEORGIA DEPARTMENT OF TRANSPORTATION

By: ___________________________________________  By: ________________________________
Name: _____________________________  Name: Russell R. McMurry, P.E.
Title: _______________________________  Title: Commissioner

By: ________________________________  Attested By: _______________________________
Name: _____________________________  Name: Angela O. Whitworth
Title: _______________________________  Title: Treasurer
EXHIBIT 1

ACRONYMS AND DEFINITIONS

Unless otherwise specified, wherever the following abbreviations or terms are used in this Agreement and the Technical Provisions, they have the meanings set forth below:

AASHTO  American Association of State Highway and Transportation Officials
ADA  Americans with Disabilities Act
AGC  Associated General Contractors of America
AMRL  AASHTO Materials Reference Laboratory
ANSI  American National Standards Institute
APE  Area of Potential Effects
ARC  Atlanta Regional Commission
AREMA  American Railway Engineering and Maintenance of Way Association
ASTM  American Society of Testing and Materials
ATC  Alternative Technical Concept
BFI  Bridge Foundation Investigation
AWS  American Welders Society
BMP  Best Management Practice
CAD  Computer Aided Design
CAPWAP  Case Pile Wave Analysis program
CCTV  Closed Circuit Television
CE  Categorical Exclusion
CEI  Construction Engineering and Inspection
CEPP  Comprehensive Environmental Protection Plan
CFR  Code of Federal Regulations
CIA  Contract Item Agreement
CMS  Changeable Message Sign
CPI  Consumer Price Index
CQAM  Construction Quality Assurance Manager
CQMP  Construction Quality Management Plan
CSJ  Control Section Job
CWA  Clean Water Act
DB  Design-Build
DBA  Design-Build Agreement
DBE  Disadvantaged Business Enterprise, as set forth in 49 CFR Part 26
DEIS  Draft Environmental Impact Statement
DMS  Dynamic Message Signs
DNR  Georgia Department of Natural Resources
DQAM  Design Quality Assurance Manager
DQMP  Design Quality Management Plan
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>DSS</td>
<td>Decent, Safe and Sanitary</td>
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<tr>
<td>EA</td>
<td>Environmental Assessment</td>
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<td>ECM</td>
<td>Environmental Compliance Manager</td>
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<tr>
<td>EDG</td>
<td>GDOT Electronic Data Guidelines</td>
</tr>
<tr>
<td>EP</td>
<td>Extraction Procedure (toxicity)</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>EPD</td>
<td>Georgia Department of Natural Resources, Environmental Protection Division</td>
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<tr>
<td>EPIC</td>
<td>Environmental Permits Issues and Commitments</td>
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<td>ESA</td>
<td>Endangered Species Act of 1973, 16 U.S.C. §§ 1531 et seq., as amended from time to time</td>
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<td>EUC</td>
<td>Emergency Utility Coordinator</td>
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<tr>
<td>FAA</td>
<td>Federal Aviation Administration</td>
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<td>FAPG</td>
<td>Federal-Aid Policy Guide</td>
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<td>FEMA</td>
<td>Federal Emergency Management Agency</td>
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<td>FHWA</td>
<td>U.S. Federal Highway Administration</td>
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<td>Final Environmental Impact Statement</td>
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<td>Finding of No Significant Impact</td>
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<td>Georgia Environmental Policy Act, Section 12-16-1, et seq. of the Official Code of Georgia Annotated</td>
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<td>GIS</td>
<td>Geographical Information System</td>
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<td>HEC-FFA</td>
<td>Hydraulic Engineering Circular – Flood Frequency Analysis</td>
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<td>Highway Conditions Report</td>
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<td>ICD</td>
<td>Interface Control Document</td>
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<td>ID</td>
<td>Form of Identification</td>
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<td>IH</td>
<td>Interstate Highway</td>
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<td>IRI</td>
<td>International Roughness Index</td>
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<td>ISO</td>
<td>International Organization for Standardization</td>
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<td>ITS</td>
<td>Intelligent Transportation System</td>
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<td>IVHS</td>
<td>Intelligent Vehicle Highway System</td>
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<td>IWP</td>
<td>Investigative Work Plan</td>
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<td>Microwave Detection System</td>
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<td>Manual for Assessing Safety Hardware</td>
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<td>Memorandum of Understanding</td>
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<td>MPH</td>
<td>Miles Per Hour</td>
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<td>MPO</td>
<td>Metropolitan Planning Organization</td>
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<td>Acronym</td>
<td>Description</td>
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<td>MS4</td>
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<td>Materials Safety Data Sheets</td>
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<tr>
<td>NMFS</td>
<td>National Marine Fisheries Service</td>
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<td>NOI</td>
<td>Notice of Intent</td>
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<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
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<tr>
<td>NOT</td>
<td>Notice of Termination</td>
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<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<tr>
<td>NRCS</td>
<td>Natural Resource Conservation Service</td>
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<td>NRHP</td>
<td>National Register of Historic Places</td>
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<td>NTP</td>
<td>Notice to Proceed</td>
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<td>NTAS</td>
<td>National Terrorism Advisory System</td>
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<tr>
<td>OCGA</td>
<td>Official Code of Georgia Annotated</td>
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<tr>
<td>OCR</td>
<td>Optical Character Recognition</td>
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<tr>
<td>OSAH</td>
<td>Georgia Office of State Administrative Hearings</td>
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<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
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<tr>
<td>OVF</td>
<td>Owner Verification Firm</td>
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<tr>
<td>PA</td>
<td>Programmatic Agreement</td>
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<td>PACES</td>
<td>Pavement Condition Evaluation System</td>
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<td>PDP</td>
<td>GDOT Plan Development Process</td>
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<tr>
<td>PIC</td>
<td>Public Information Coordinator or Public Information Contact, depending on context</td>
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<tr>
<td>PICP</td>
<td>Public Information and Communications Plan</td>
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<tr>
<td>PLS (or RPLS)</td>
<td>Professional Land Surveyor</td>
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<td>PMC</td>
<td>Program Management Consultant</td>
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<td>PMCS</td>
<td>Project Management Controls System</td>
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<td>PMP</td>
<td>Project Management Plan</td>
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<td>PPE</td>
<td>Personal Protection Equipment</td>
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<td>PQMP</td>
<td>Project Quality Management Plan</td>
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<td>PUA</td>
<td>Possession and Use Agreement</td>
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<td>Quality Control</td>
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<td>QMP</td>
<td>Quality Management Plan</td>
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<tr>
<td>Acronym</td>
<td>Definition</td>
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<td>RCP</td>
<td>Reinforced Concrete Pipe</td>
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<td>RFC</td>
<td>Release for Construction</td>
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<td>RFI</td>
<td>Request for Information</td>
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<td>RFQ</td>
<td>Request for Qualifications</td>
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<td>RFP</td>
<td>Request for Proposals</td>
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<td>RLM</td>
<td>Residual Life Methodology</td>
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<td>ROD</td>
<td>Record of Decision</td>
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<td>ROW</td>
<td>Right of Way</td>
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<td>ROW AM</td>
<td>Right of Way Acquisition Manager</td>
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<td>ROWIS</td>
<td>Right of Way Information System</td>
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<td>RTF</td>
<td>Related Transportation Facilities</td>
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<td>SDPP</td>
<td>Special Deposit and Possession Procedure</td>
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<td>SDEIS</td>
<td>Supplemental Draft Environmental Impact Statement</td>
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<td>SH</td>
<td>State Highway</td>
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<td>SHPO</td>
<td>State Historic Preservation Officer</td>
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<td>SME</td>
<td>Subject Matter Expert</td>
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<td>SOQ</td>
<td>Statement of Qualifications</td>
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<td>SOV</td>
<td>Schedule of Values</td>
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<td>SR</td>
<td>State Route</td>
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<td>SSTR</td>
<td>Single Slope Traffic Railing</td>
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<td>STA</td>
<td>State Transportation Agency</td>
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<td>SUA</td>
<td>Standard Utility Agreement</td>
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<td>SUE</td>
<td>Subsurface Utility Engineering</td>
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<td>TCLP</td>
<td>Toxicity Characteristic Leaching Procedure</td>
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<td>TIR</td>
<td>Traffic Interruption Request</td>
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<td>TMC</td>
<td>Traffic Management Center</td>
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<td>TMP</td>
<td>Transportation Management Plan</td>
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<td>UAM</td>
<td>Utility Accommodation Manual</td>
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<td>UAT</td>
<td>Utility Adjustment Team</td>
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<td>UCS</td>
<td>User Classification Subsystem</td>
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<td>UDC</td>
<td>Utility Design Coordinator</td>
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<td>UJUA</td>
<td>Utility Joint Use Acknowledgment or Utility Joint Use Agreement</td>
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<td>UM</td>
<td>Utility Manager</td>
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<td>US</td>
<td>United States</td>
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<td>USACE</td>
<td>United States Army Corps of Engineers</td>
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<td>United States Department of Transportation</td>
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<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
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<td>U.S. GAAP</td>
<td>U.S. Generally Accepted Accounting Principles</td>
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<td>USPAP</td>
<td>Uniform Standard of Professional Appraisal Practices</td>
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<td>UST</td>
<td>Underground Storage Tank</td>
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<td>UTM</td>
<td>Universal Transverse Mercator</td>
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<td>Acronym</td>
<td>Description</td>
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<tr>
<td>VDS</td>
<td>Video Detection System</td>
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<td>VES</td>
<td>Video Exception Sub-system</td>
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<td>WBS</td>
<td>Work Breakdown Structure</td>
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<td>WFI</td>
<td>Wall Foundation Investigation</td>
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<td>WECS</td>
<td>Worksite Erosion Control Supervisor</td>
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<td>WTCS</td>
<td>Worksite Traffic Control Supervisor</td>
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<td>WUCS</td>
<td>Worksite Utility Coordination Supervisor</td>
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</table>
Abandonment means that Design-Build Team abandons all or a material part of the Project, which abandonment shall have occurred if (a) Design-Build Team demonstrates through acts or omissions an intent not to continue, for any reason other than a Relief Event that materially interferes with ability to continue, to construct or operate all or a material part of the Project and (b) no significant Work (taking into account the Project Schedule, if applicable, and any Relief Event) on the Project or a material part thereof is performed for a continuous period of more than 45 days.

Addenda/Addendum/Amendment means supplemental additions, deletions, and modifications to the provisions of the RFP after the release of the draft RFP.

Additional Properties means Design-Build Team Proposed/Design-Build Team Acquired Right of Way.

Adjust means to perform a Utility Adjustment.

Adjustment means a Utility Adjustment.

Adjustment Standards means the standard specifications, standards of practice, and construction methods that a Utility Owner customarily applies to facilities (comparable to those being Adjusted on account of the Project) constructed by the Utility Owner (or for the Utility Owner by its contractors), at its own expense. Unless the context requires otherwise, references in the DB Documents to a Utility Owner’s “applicable Adjustment Standards” refer to those that are applicable pursuant to Article 7.5.3 (Requirements).

Administrative Information Submittals means those submittals Proposers are required to submit with their respective Proposal.

Affidavit of Property Interest means the form of documentation of Existing Utility Property Interests described in Volume 2, Section 6.2.2 (Communications).

Affiliate means:

(a) any shareholder, member, partner or joint venture member of Design-Build Team,

(b) any Person which directly or indirectly through one or more intermediaries’ controls, or is controlled by, or is under common control with, Design-Build Team or any of its shareholders, members, partners or joint venture members; and

(c) any Person for which ten percent (10%) or more of the equity interest in such Person is held directly or indirectly, beneficially or of record by (i) Design-Build Team, (ii) any of Design-Build Team’s shareholders, members, partners or joint venture members or (iii) any Affiliate of Design-Build Team under clause (b) of this definition.

For purposes of this definition the term “control” means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting securities, by contract, family relationship or otherwise.

Age means the elapsed time since an Element was first constructed or installed or, if applicable, last reconstructed, rehabilitated, restored, renewed or replaced.
Agreement, DBA, Design-Build Agreement, or DB Agreement means this certain Design-Build Agreement executed by GDOT and Design-Build Team, including any and all exhibits, attachments, riders, and amendments thereto.

Allowable Design Exceptions means design exceptions identified in Volume 2, Section 11.3.2 (Design Criteria Order of Precedence) that are allowed to be implemented on the Project.

Alternative Technical Concept (ATC) means a Proposer’s suggested change or variance to the requirements of the RFP that results in performance and quality of the end product that is equal to or better than the performance and quality of the Project on an overall basis with the proposed change or variance. GDOT’s determination of any Proposer’s ATC is conclusive as to the acceptability of an ATC for inclusion in the Proposal.

Apparent Successful Proposer means the Proposer with the apparent Successful Proposal, taking into consideration the evaluation criteria and procedures.

Area of Potential Effects (APE) means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of Historic Properties, if such properties exist.

Attorney General means the Attorney General of the State of Georgia.

Authorized Representative has the meaning set forth in Article 24.6.1 and shall be applicable person(s) and/or party(ies) authorized to act on behalf of GDOT and the Design-Build Team respectively, as initially set forth pursuant to Exhibit 22 (Initial Designation of Authorized Representative). All notices, deliveries, responses, approvals, and other communications among GDOT and/or the Design-Build Team shall be directed to the respective Authorized Representative for each of the aforementioned, unless expressly provided to the contrary in this Agreement.

Baseline Project Schedule shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).


Best Value Proposal means the Proposal meeting the standards set by the RFP that GDOT determines, through the evaluation process and evaluation criteria described in this ITP, to present the best value and to be in the best interest of GDOT and the State.

Betterment has, with respect to a given Utility being Adjusted, the meaning (if any) set forth in the Utility Agreement(s) applicable to the Utility; in all other cases, “Betterment” means any upgrading of the Utility in the course of such Utility Adjustment that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Utility Owner, including an increase in the capacity, capability, efficiency or function of an Adjusted Utility over that which was provided by the existing Utility. Notwithstanding the foregoing, the following are not considered Betterments unless otherwise provided in the applicable Utility Agreement(s):
(a) any upgrading which is required for accommodation of the Project;
(b) replacement devices or materials that are of equivalent standards although not identical;
(c) replacement of devices or materials no longer regularly manufactured with an equivalent or next higher grade or size;
(d) any upgrading required by applicable Law;
(e) replacement devices or materials that are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase); and
(f) any upgrading required by the Utility Owner’s applicable Adjustment Standards.

With respect to any Replacement Utility Property Interest, “Betterment” has the meaning (if any) set forth in the applicable Utility Agreement(s). In all other cases, a Replacement Utility Property Interest shall be considered a Betterment, except to the extent that reinstallation of a Utility in the Replacement Utility Property Interest (i) is necessary in order to meet the requirements of the DB Documents, or (ii) is called for by Design-Build Team in the interest of overall economy for the Project.

**Business Day, work day, or working day** means any Calendar Day less Saturday, Sunday and State of Georgia holidays.

**Calendar Day** means any day shown on the calendar, beginning and ending at midnight.

**Change in Law** means (a) the adoption of any Law after the date that is 90 days prior to the Proposal Due Date, or (b) any change, amendment to, repeal or revocation of any Law or in the interpretation or application thereof by any Governmental Entity after the date that is 90 days prior to the Proposal Due Date, in each case that is materially inconsistent with Laws in effect 90 days prior to the Proposal Due Date; excluding, however, any such Change in or new Law that also constitutes or causes a change in or new Adjustment Standards, as well as any change in or new Law passed or adopted but not yet effective as of the date that is 90 days prior to the Proposal Due Date.

**Change of Control** means any assignment, sale, financing, grant of security interest, transfer of interest or other transaction of any type or description, including by or through voting securities, asset transfer, contract, merger, acquisition, succession, dissolution, liquidation or otherwise, that results, directly or indirectly, in a change in possession of the power to direct or control or cause the direction or control of the management of Design-Build Team or a material aspect of its business. A change in the power to direct or control or cause the direction or control of the management of a shareholder, member, partner or joint venture member of Design-Build Team may constitute a Change of Control of Design-Build Team if such shareholder, member, partner or joint venture member possesses the power to direct or control or cause the direction or control of the management of Design-Build Team. Notwithstanding the foregoing, the following shall not constitute a Change of Control:

(a) A change in possession of the power to direct or control the management of Design-Build Team or a material aspect of its business due solely to a bona fide open market
transaction(s) in securities effected on a recognized public stock exchange, including such transactions involving an initial public offering;

(b) A change in possession of the power to direct or control the management of Design-Build Team or a material aspect of its business due solely to a bona fide transaction involving beneficial interests in the ultimate parent organization of a shareholder, member, partner or joint venture member of Design-Build Team, (but not if the shareholder, member, partner or joint venture member is the ultimate parent organization), unless the transferee in such transaction is at the time of the transaction suspended or debarred or subject to a proceeding to suspend or debar from bidding, proposing or contracting with any federal or State department or agency;

(c) An upstream reorganization or transfer of direct or indirect interests in Design-Build Team so long as there occurs no change in the entity with ultimate power to direct or control or cause the direction or control of the management of Design-Build Team;

(d) A transfer of interests between managed funds that are under common ownership or control other than a change in the management or control of a fund that manages or controls Design-Build Team;

(e) The exercise of minority veto or voting rights (whether provided by applicable Law, by Design-Build Team’s organizational documents or by related member or shareholder agreements or similar agreements) over major business decisions of Design-Build Team, provided that if such minority veto or voting rights are provided by shareholder or similar agreements, GDOT has received copies of such agreements; or

Change Order means a written approval by GDOT, counter-signed by Design-Build Team, with respect to a GDOT Change or Change Request, which shall set forth any adjustments to the Contract Sum and/or the Contract Time, including on account of a Relief Event or Compensation Event, as provided in the Agreement.

Change Request means a written request from Design-Build Team seeking to change the character, quantity, quality, description, scope or location of any part of the Work, to modify the DB Documents.

Claimant means any Person that would be entitled to protection of payment bond under Code Section 13-10-63, including any P&P Bonds.

Code means the Official Code of Georgia Annotated.

Commissioner means the Commissioner of GDOT appointed by the State Transportation Board and any successor thereto having substantially similar powers and authority.

Communications Support Plan has the meaning set forth in Volume 2, Section 2.2.3 (Communications Support).

Compensation Amount means the amount of compensation to be paid to Design-Build Team for a Compensation Event as set forth and subject to the limitations of the Agreement, including Article 14.2 (Compensation Events) therein.
Compensation Event means any of the following events, subject to any limitations, claims submission requirements, and other conditions set forth in the Agreement, provided that no relief will be available to the extent that (i) the events are within Design-Build Team’s control, or are due to any wrongful act, wrongful omission, negligence, recklessness, willful misconduct, breach of contract or Law or violation of a Governmental Approval of any of the Design-Build Team-Related Entities; (ii) the events (or the effects of such events) could have been avoided by the exercise of reasonable caution, due diligence, or other reasonable efforts by Design-Build Team:

(a) Change in Law;

(b) Discriminatory Action;

(c) Material breach by GDOT of its material obligations under the Agreement or other DB Documents, including unreasonable failure to issue a certificate of Substantial Completion or a certificate of satisfaction of conditions precedent to Final Acceptance after Design-Build Team satisfies all applicable conditions and requirements for obtaining such certificates;

(d) GDOT-Caused Delay, other than with respect to GDOT’s failure to provide response to Design-Build Team Submittals as provided under clause (d) of the definition of a GDOT-Caused Delay;

(e) GDOT Change;

(f) A GDOT Release of Hazardous Material or remediation of Pre-Existing Hazardous Materials, but excluding the extent of any Design-Build Team Release of Hazardous Materials;

(g) Issuance by a court in a legal proceeding challenging any approval of Environmental Documents or a temporary restraining order or other form of temporary injunction that prohibits prosecution of any material portion of the Work, unless the injunction is the result of an action or inaction by the Design-Build Team;

(h) Any change in the design concept of the Project or any portion thereof resulting from judicial or administrative action taken with respect to a legal challenge to any approval of Environmental Documents as compared to the design concept indicated in the alternative that was the subject of the approval of Environmental Documents, except to the extent the change in design concept had already been incorporated into Design-Build Team’s design schematics as approved pursuant to this Agreement;

(i) Subject to clause (n) of this definition of a Compensation Event, failure to obtain, or unreasonable and unjustified delay in obtaining or otherwise maintaining once issued, a Governmental Approval from any Governmental Entity, except to the extent that such failure or delay results from failure by any Design-Build Team-Related Entity to locate or design the Project or carry out the work in accordance with the approval of Environmental Documents or other Governmental Approval (which failure may include (i) modification by or on behalf of Design-Build Team of the design concept included in the approval of Environmental Documents, (ii) means or methods used by any Design-Build Team-Related Entity for carrying out the Work, or (iii) decision or action by or on behalf of Design-Build Team to use or acquire Additional Property);
(j) GDOT’s (i) lack of good and sufficient title to any parcel in the Existing Right of Way or the State Proposed/State Acquired Right of Way or Property owned by GDOT, to the extent it interferes with or adversely affects performance of Work, (ii) inability or failure to obtain an interest (including by easement or other right of access) to real property not identified in the State Proposed/State Acquired Right of Way and required for construction of the Project as demonstrated by Design-Build Team, exclusive of any Additional Properties, Project Specific Locations, or parcels that are solely for the convenience of Design-Build Team, to the extent it interferes with or adversely affects performance of Work, or (iii) the existence at any time following issuance of NTP 3 of any title reservation, condition, easement or encumbrance on any parcel in the Existing Right of Way or Property owned by GDOT, of record or not of record, to the extent it interferes with or adversely affects performance of Work, except any title reservations, conditions, easements or encumbrances (A) concerning Utilities or (B) caused, permitted or suffered by a Design-Build Team-Related Entity;

(k) Failure to obtain, or unreasonable and unjustified delay in obtaining, an approval from GDOT with respect to a Permitted Design Exception, except to the extent that such failure or delay in obtaining the GDOT approval results from failure by any Design-Build Team-Related Entity to carry out the Work in accordance with the DB Documents;

(l) Failure to obtain, or unreasonable and unjustified delay in obtaining, a Governmental Approval required for a re-evaluation of an approval of Environmental Documents due to an approved ATC; provided that Design-Build Team shall only be entitled to compensation for such failure or delay after expiration of the applicable GDOT Re-evaluation Period;

(m) Performance of work in the Construction Maintenance Limits or Operations and Maintenance Limits, by Separate Contractors within the ROW, carried out by or on behalf of GDOT or a Governmental Entity, excluding any Utility Adjustment Work by a Utility Owner, that directly disrupts DB Team’s onsite Work; or

(n) Material delays as a result of any modification to the approval of Environmental Documents, as a result of the Environmental Documents, and all approved supplements and re-evaluations pertaining to the Project as of the Effective Date provided that any such modifications are not the result of an ATC, Additional Properties, or attributable to Design-Build Team’s design.

Compensation Event Determination has the meaning set forth in the term “Compensation Event” in Exhibit 1 (Acronyms and Definitions).

Compensation Event Notice means the written notice submitted by Design-Build Team in accordance with Article 13.3.2 (DB Team’s Notice of Compensation Event and/or Relief Event).

Completion Date means the date the Design-Build Team has satisfied all conditions and requirements of and for a Completion Deadline, including Interim Completion Deadlines, the Substantial Completion Deadline, and Final Acceptance, as may be adjusted pursuant to any Supplemental Agreement, including on account of any Relief Events.

Completion Deadline means the critical milestones for commencement or completion of the Work as set forth in Exhibit 9 (Milestone Deadlines), including without limitation Interim Completion Deadlines, the Substantial Completion Deadline, and Final Acceptance Deadline, as
may be adjusted upon approval of the Baseline Project Schedule as set forth in Article 3.2 (Project Schedule), and as further adjusted pursuant to any Supplemental Agreement, including on account of any Relief Events.

**Comprehensive Environmental Protection Plan** has the meaning set forth in Volume 2, Section 4.3.3 (Comprehensive Environmental Protection Plan).

**Conceptual Layout Plan** means the schematic layout which provides alignment and lane configuration information necessary to verify lane continuity and general scope compliance for the entire Project.

**Construction Commencement Date** means for the date on which Design-Build Team first commences construction of the Project or such relative phase thereof.

**Construction Documents** means all shop drawings, working drawings, fabrication plans, material and hardware descriptions, specifications, construction quality control reports, construction quality assurance reports and samples necessary or desirable for construction of the Project and/or the Utility Adjustments included in the Construction Work, in accordance with the DB Documents.

**Construction Maintenance Limits** means the limits to identify the physical boundaries of Design-Build Team’s maintenance responsibilities for the Construction Work.

**Construction Phase** has the meaning set forth in Volume 2, Section 2.2.4 (Construction Phasing and Staging Plan).

**Construction Phasing and Staging Plan** has the meaning set forth in Volume 2, Section 2.2.4.

**Construction Work** means all portions of the Work necessary to build or construct, make, form, manufacture, furnish, install, supply, deliver or equip the Project and/or the Utility Adjustments. Construction Work includes landscaping.

**Contract** means any agreement, and any supplement or amendment thereto, by either (a) Design-Build Team with any other Person or Contractor, or (b) any Contractor with any Person or Subcontractor, to perform any part of the Work or provide any materials, equipment or supplies for any part of the Work, or any such agreement, supplement or amendment at a lower tier, between a Subcontractor and its lower tier sub-subcontractor or supplier. The term “Contract” excludes Utility Agreements and any agreement with GDOT.

**Contract Item Agreement (CIA)** means an Agreement used for including Utility work in the Department’s project and performed by the Department’s Contractor awarded by competitive bid.

**Contract Sum** means the total contract sum to be paid to Design-Build Team on account of the fully and properly performed Work as set forth in the Agreement (preceding signatures under Article 24 (Miscellaneous)), as adjusted pursuant to Supplemental Agreements (including to reflect adjustments for Compensation Events or Change Orders as provided in the Agreement), including without limitation all of Design-Build Team’s profit, fees, financing costs and interest expense for Design-Build Team Debt, all costs of work and services, materials, equipment, supplies, general conditions costs, overhead and administrative expenses.
professional fees and subconsultant costs, acquisition and other costs associated with acquisition of any Approved Properties, insurance and bond premiums, sales taxes, assessments, tariffs, permit, license and registration fees, and all other related costs and expenses.

**Contract Time** means the time period provided for Design-Build Team’s completion of the Work as provided in Article 3.3.1.

**Contractor** means any Person, including any Subcontractor with whom Design-Build Team has entered into any Contract to perform any part of the Work or provide any materials, equipment or supplies for the Project and/or the Utility Adjustments included in the Construction Work, on behalf of Design-Build Team. The term “Contractor” excludes GDOT.

**Cost to Cure** means an appraisal method applied to estimate a proper adjustment for damages to a property that can be physically and economically corrected, as described in further detail in the GDOT ROW Manual.

**Critical Path** means the sequence of activities that must be completed on schedule for the entire Project to be completed in accordance with the Milestone Deadlines. This is the longest duration path through the work plan, in terms of time, of logically connected activities on the Baseline Project Schedule ending with the relative Milestone Deadline in respect thereof.

**Customer Groups** means groups, Persons and entities having a perceived stake or interest in the Project, including: the media, elected officials, Governmental Entities, general public residing or working within the general vicinity of the Project or traveling within or across the limits of the Project, business owners within or adjacent to the Project corridor, Utility Owners, railroads, transportation authorities and providers, community groups, local groups (neighborhood associations, business groups, chambers of commerce, convention and visitors bureaus, contractors, etc.) and other Persons or entities affected by the Project.

**Day** or **day** means calendar day unless otherwise expressly specified.

**DBE Commitments List** means Design-Build Team’s commitment for meeting the Disadvantaged Business Enterprises (DBE) participation goals set forth in Article 10.9.2 (DBE Participation Goals) and Exhibit 14 (Design-Build Team’s DBE Commitments List).

**Decent, Safe and Sanitary (DSS)** means the condition of a dwelling such that it meets applicable housing and occupancy codes.

**Default Interest Rate** means the statutory interest rate applicable to GDOT for contract payment defaults.

**Default Termination Event** means each of the Design-Build Team Defaults listed in Article 19.3.1 (DB Team Defaults Triggering GDOT Termination Rights).

**Defect** means any Work that does not otherwise conform with the DB Documents, or otherwise is a defect, whether by design, construction, installation, affecting the condition, use, functionality or operation of any portion of the Work which, ordinary wear and tear excepted, would cause or have the potential to cause one or more of the following:
(a) a hazard, nuisance or other risk to public or worker health or safety, including the health and safety of Users;

(b) a structural deterioration of the affected Element or any other part of the Project;

(c) damage to a third party’s property or equipment;

(d) damage to the Environment;

(e) failure of the affected Element or any other part of the Project to meet a Performance Requirement; or

(f) failure of an Element to meet the Target for a measurement record as set forth in the columns headed “Target” and “Measurement Record” in the Performance and Measurement Table Baseline.

Demobilization means Work performed to remove offices, plants, and facilities; and to move personnel, equipment, and supplies from the Project site to complete Construction Work.

Design-Build Agreement, DB Agreement, DBA - see definition for Agreement.

Design-Build Documents or DB Documents means those documents as set forth in Article 1.2 (DB Documents; Order of Precedence) and all such other agreements entered into by GDOT and Design-Build Team or any Design-Build Team-Related Entity, or otherwise executed by Design-Build Team or a Design-Build Team-Related Entity and delivered to GDOT, with respect to or in connection with this Agreement, including without limitation Supplemental Agreements.

Design-Build Period means the period commencing with NTP 1 and ending when Design-Build Team achieves Final Acceptance.

Design-Build Team or DB Team means the party identified as such in the opening paragraph of this Agreement, together with its permitted successors and assigns.

Design-Build Team Default or DB Team Default has the meaning set forth in Article 17.1.1 (DB Team Default).

Design-Build Team’s Interest or DB Team's Interest means all right, title, and interest of Design-Build Team in, to, under or derived from the Agreement and the other DB Documents.

Design-Build Team Noise Barrier Change has the meaning set forth in Volume 2, Section 22.3.1 (Environmental).

Design-Build Team Proposed/ Design-Build Team Acquired Right of Way means Additional Properties; see Volume 2, Section 7 (ROW Additional Properties).

Design-Build Team-Related Entities or DB Team Team-Related Entities means (a) Design-Build Team, (b) Design-Build Team's shareholders, partners, joint venture members and/or members, (c) the Contractor and all other Subcontractors (including Suppliers), (d) any other Persons performing any of the Work, (e) any other Persons for whom Design-Build Team may be legally or contractually responsible, and (f) the employees, agents, officers, directors,
shareholders, representatives, consultants, successors and assign of any of the foregoing; provided, however, that GDOT shall not be considered Design-Build Team-Related Entities.

**Design-Build Team Release(s) of Hazardous Material** or **DB Team Release(s) of Hazardous Material** means (a) Release(s) of Hazardous Material, or the exacerbation of any such release(s), attributable to the culpable actions, culpable omissions, negligence, willful misconduct, or breach of applicable Law or contract by any Design-Build Team-Related Entity; (b) Release(s) of Hazardous Materials arranged to be brought onto the Site or elsewhere by any Design-Build Team-Related Entity; regardless of cause, or (c) use, containment, storage, management, handling, transport and disposal of any Hazardous Materials by any Design-Build Team-Related Entity in violation of the requirements of the DB Documents or any applicable Law or Governmental Approval.

**Design-Build Team Vehicle** or **DB Team Vehicle** means any vehicle authorized by Design-Build Team performing construction, maintenance or operation of the Project, or other related activity.

**Design Deviation** means any deviation from criteria defined in the GDOT Design Policy Manual as a "guideline". Failure to adhere to the “10 Controlling Criteria” mandated by FHWA and/or the GDOT Standard Design Criteria mandated by GDOT does not qualify as a Design Deviation.

**Design Documents** means all drawings (including plans, profiles, cross-sections, notes, elevations, typical sections, details and diagrams), specifications, reports, studies, calculations, electronic files, records and submittals necessary for, or related to, the design of the Project and/or the Utility Adjustments included in the Design Work and/or the Construction Work.

**Design Speed** means the speed used to determine the various geometric design features of the roadway.

**Design Work** means all Work of design, engineering or architecture for the Project or Utility Adjustments.

**Deviation** means any proposed or actual change, deviation, modification, alteration or exception from this Agreement, the Technical Provisions, Technical Documents or Governmental Approvals.


**Disadvantaged Business Enterprise** or **DBE** has the meaning set forth 49 CFR 23 and further described in Attachment 6 (Disadvantaged Business Enterprise Program Criteria for Acceptability) to Exhibit 8 (Federal Requirements).

**Discipline Groups** has the meaning set forth in Volume 2, Section 3.3.7.10 (GDOT Design Review Process).

**Discriminatory** or **Discriminatory Action** means (a) materially more onerous application to Design-Build Team or the Project of changes or additions to Technical Provisions or Technical Documents than the application thereof to other Comparable Limited Access Highways, or (b) selective application of changes or additions to Technical Provisions or Technical Documents to Design-Build Team or the Project and not to other Comparable Limited
Access Highways. Notwithstanding the foregoing, the following actions are not Discriminatory or Discriminatory Actions: (i) any such application in response to any act or omission by or on behalf of Design-Build Team in violation of Law or the DB Documents; (ii) Safety Compliance; (iii) any such application in response to a directive by the U.S. Department of Homeland Security or comparable State agency, unless such directive is directed solely at or solely affects the Project and such application requires specific changes in Design-Build Team’s normal design, construction, operation or maintenance procedures in order to comply; and (iv) any other actions necessary to address potential safety concerns arising from a specific condition or feature peculiar to the Project.

**Dispute** means any claim, dispute, disagreement or controversy between GDOT and Design-Build Team concerning their respective rights and obligations under the DB Documents, including concerning any alleged breach or failure to perform and remedies.

**Dispute Resolution Procedures** means the procedures for resolving Disputes set forth in Article 17.7 (Dispute Resolution Procedures).

**Early Adjustment** means a Utility identified as such in Volume 2, Section 6 (Utility Adjustments).

**Early Portions of the Work** means those usable portions of the Project, which should be opened so that they are contiguous; each of which must be completed within the Interim Completion Deadline identified in Exhibit 9 (Milestone Deadlines).

**Early Termination Date** means the effective date of termination of the Agreement for any reason prior to the stated expiration Final Acceptance Deadline, as specified in the relevant provisions of Article 19 (Termination).

**Effective Date** means the date of the Agreement or such other date as shall be mutually agreed upon in writing by GDOT and Design-Build Team.

**Element** means an individual component, system or subsystem of the Work.

**Emergency** means an unforeseen event affecting the Project whether directly or indirectly which (a) causes or has the potential to cause disruption to the free flow of traffic on the Project or a threat to the safety of the public; (b) is an immediate or imminent threat to the long term integrity of any part of the infrastructure of the Project, to the Environment, to property adjacent to the Project or to the safety of Users or the traveling public; or (c) is recognized by the Georgia Department of Public Safety as an emergency.

**Engineer of Record** means a Professional Engineer as defined in this Exhibit 1 (Acronyms and Definitions) on the Design-Build Team who is responsible and liable for the adequacy and safety of the design. This individual will sign and seal the Released for Construction plans, as well as revisions on construction.

**Environment** means air, soils, surface waters, groundwater, land, stream sediments, surface or subsurface strata, biological resources, including endangered, threatened and sensitive species, natural systems, including ecosystems, and historic, archeological and paleontological resources.
Environmental Approvals (also Environmental Document Approvals) means all Governmental Approvals arising from or required by any Environmental Law in connection with development of the Project, including approvals and permits required under NEPA/GEPA.

Environmental Commitment (also Environmental Permits, Issues and Commitments) means an environmental requirement that must be fulfilled before, during or after construction. Environmental Commitments include commitments to avoid impacts in specified areas, complete environmental investigations before construction impacts, or to perform specified actions after completion of construction.

Environmental Documents means all required documents and submittals pertaining to either federal or state laws and permits which are necessary to complete the Project. This may include but not be limited to NEPA, GEPA, and/or other state and federal environmental laws.

Environmental Law means any Law applicable to the Project or the Work regulating or imposing liability or standards of conduct that pertains to the Environment, Hazardous Materials, contamination of any type whatsoever, or environmental health and safety matters, and any lawful requirements and standards that pertain to the Environment, Hazardous Materials, contamination of any type whatsoever, or environmental health and safety matters, set forth in any permits, licenses, approvals, plans, rules, regulations or ordinances adopted, or other criteria and guidelines promulgated, pursuant to Laws applicable to the Project or the Work, as such have been or are amended, modified, or supplemented from time to time (including any present and future amendments thereto and reauthorizations thereof) including those relating to:

(a) The manufacture, processing, use, distribution, existence, treatment, storage, disposal, generation, and transportation of Hazardous Materials;

(b) Air, soil, surface and subsurface strata, stream sediments, surface water, and groundwater;

(c) Releases of Hazardous Materials;

(d) Protection of wildlife, Threatened or Endangered Species, sensitive species, wetlands, water courses and water bodies, historical, archeological, and paleontological resources, vegetative buffers, and natural resources;

(e) The operation and closure of underground storage tanks;

(f) and safety of employees and other persons; and

(g) Notification, documentation, and record keeping requirements relating to the foregoing.

Without limiting the above, the term “Environmental Laws” shall also include the following:

(i) The National Environmental Policy Act (42 U.S.C. §§ 4321 et seq.), as amended;

(ii) The Georgia Environmental Policy Act (Section 12-16-1, et seq. of the Official Code of Georgia Annotated), as amended;
(iii) State species laws, including Georgia Endangered Wildlife Act and/or, Georgia Wildflower Preservation Act;


(v) The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 et seq.);


(vii) The Clean Air Act (42 U.S.C. §§ 7401 et seq.), as amended;

(viii) The Federal Water Pollution Control Act, as amended by the Clean Water Act (33 U.S.C. §§ 1251 et seq.);


(xii) The Oil Pollution Act (33 U.S.C. §§ 2701, et seq.), as amended;


(xv) The Federal Radon and Indoor Air Quality Research Act (42 U.S.C. §§ 7401 et seq.), as amended;

(xvi) The Occupational Safety and Health Act (29 U.S.C. §§ 651 et seq.);


(xviii) The Fish and Wildlife Coordination Act (16 U.S.C. §§ 661 et seq.), as amended;


(xx) The Coastal Zone Management Act (33 U.S.C. §§ 1451 et seq.), as amended;

(xxii) Georgia Underground Storage Act (O.C.G.A. § 12-13-1)).
Environmental Mitigation Plan means the plan to address and cause action on any mitigation effort that is defined in the project’s Environmental Commitment Table (Volume 2, Attachment 4-1), permits, environmental document, Standard Specifications, Supplemental Specifications, Special Provisions or Technical Provisions for impacts caused by the project’s construction activities or required mitigation of existing site conditions.

Escrow Agent has the meaning set forth in Exhibit 24 (Escrow Bid Documentation).

Evaluation Score means the numerical score resulting from the adjectival evaluation and numerical conversion of a particular portion of the Proposals.

Exhibits means all exhibits, riders, and other attachments to the DB Documents, including without limitation Volume 1 and Volume 2, as well as, any of the aforementioned, which are incorporated into any DB Documents by reference, and all amendments, modifications, and supplements thereto.

Existing Improvements means the existing highway, bridge, and related improvements as of the date that are in effect at the date of the RFP advertisement within the Construction Maintenance Limits.

Existing Right of Way or Existing ROW means any real property (which term is inclusive of all estates and interests in real property), improvements and fixtures (i) as provided in Article 2.2 (Right of Way; Construction Easement; Ownership) and more specifically described and identified as “Existing ROW” within Exhibit 4 (Right of Way (Existing Right of Way and Required Right of Way) in which GDOT has a leasehold estate and interest pursuant to the Estate for Years or other property right or interest, and (ii) any Proposed Right of Way, which GDOT at any time after the Effective Date, shall acquire a leasehold estate or other property interest. The term specifically includes all air space, surface rights and subsurface rights within the limits of the Existing Right of Way.

Existing Utility Property Interest means any right, title or interest in real property (e.g., a fee or an easement) claimed by a Utility Owner as the source of its right to maintain an existing Utility in such real property, which is compensable in eminent domain.

Federal Requirements means the provisions required to be part of federal-aid construction contracts, including the provisions set forth in Exhibit 8 (Federal Requirements).

Final Acceptance means the occurrence of all the events and satisfaction of all the conditions set forth in Article 7.7.2 (Punch List), as and when confirmed by GDOT’s issuance of a certificate in accordance with the procedures and within the timeframe established in Article 7.7.2.

Final Acceptance Date means the date upon which Design-Build Team has satisfied all conditions of and for Final Acceptance and GDOT has certified same.

Final Acceptance Deadline means the deadline for achieving Final Acceptance, as set forth in Exhibit 9 (Milestone Deadlines) as such deadline may be extended for any Relief Event or Change Order as and to extend provided in the Agreement.

Final Design shall have the meaning set forth in Article 3.3.1.2.
**Final Plans** means the Design Documents which provide the complete and final documents necessary for the construction, operations, and maintenance of the Project or any portion thereof including any Utility Adjustments required by the Project.

**Final ROW Lines** means the final location of all Right of Way within the project limits.

**Fiscal Year** means the 12 month fiscal year used by GDOT for budgeting purposes.

**Float** means the amount of time that any given activity or logically connected sequence of activities shown on the Project Schedule, as the case may be, may be delayed before it will affect completion of any Work as required to achieve any Milestone Deadlines, including the Substantial Completion Deadline and Final Acceptance Deadline.

**Force Majeure Event** means the occurrence of any of the following events that materially and adversely affects performance of Design-Build Team’s obligations, provided that such events (or the effects of such events) could not have been avoided by the exercise of caution, due diligence, or reasonable efforts by Design-Build Team: (a) war (including civil war and revolution), invasion, armed conflict, violent act of foreign enemy, military or armed blockade, or military or armed takeover of the Project, in each case occurring within the State; (b) any act of terrorism or sabotage that causes direct physical damage to the Project; (c) nuclear explosion or contamination, in each case occurring within the State; (d) riot and civil commotion on or in the immediate vicinity of the Project; (e) fire, explosion, flood, earthquake, hurricane, or tornado, in each case that causes direct physical damage to the Project; or (f) national or statewide (i.e., State of Georgia) strike that has a direct adverse impact on Design-Build Team’s ability to obtain materials, equipment or labor for the Project.

**Formal Consultation** means during Section 7 Consultation (Endangered Species Act) that a Federal agency determines, through a biological assessment or other review, that its action is likely to adversely affect a listed species.

**GDOT** means the Georgia Department of Transportation, as set forth in the recitals of the Agreement, and any entity succeeding to the powers, authorities and responsibilities of GDOT invoked by or under the DB Documents.

**GDOT-Caused Delay** means any of the following events, to the extent they result in a material delay or interruption in performance of any material obligation under the Agreement, and provided such events are beyond Design-Build Team’s control and are not due to any act, omission, negligence, recklessness, willful misconduct, breach of contract or Law of any of the Design-Build Team-Related Entities, solely to the extent not concurrent or overlapping with any delay attributable to Design-Build Team, and further provided that such events (or the effects of such events) could not have been avoided by the exercise of caution, due diligence, or reasonable efforts by Design-Build Team, and with respect to any Compensation Event, solely to the extent that the cumulative effect of any such delays as set forth below have or shall result in delays, after taking into account any available Float, in excess of 90 days:

(a) Failure of GDOT to issue NTP 1 as provided pursuant to Article 3.3.1.1 and/or failure to issue NTP 2 or NTP 3 as provided pursuant to Article 3.3.1.2 and Article 3.3.1.3;

(b) GDOT Changes;
(c) Failure of GDOT to provide the GDOT-Provided Approvals within the time periods set forth in Volume 2, Section 4.3.2 (GDOT Review and Approval of Environmental Documents and Permits), subject to Article 6.2.1; or

(d) Failure of GDOT to provide responses to proposed schedules, plans, Design Documents, condemnation and acquisition packages, and other Submittals and matters submitted to GDOT after the Effective Date for which response is required under the DB Documents as an express prerequisite to Design-Build Team’s right to proceed or act, within the time periods (if any) indicated in the DB Documents, or if no time period is indicated, within a reasonable time, taking into consideration the nature, importance and complexity of the submittal or matter, following delivery of written notice from Design-Build Team requesting such action in accordance with the terms and requirements of the DB Documents;

(e) Failure of GDOT to provide Design-Build Team with access to the Right of Way as required; or


Any proper suspension of Work pursuant to Article 17.3.7 (Suspension of Work) shall not be considered a GDOT-Caused Delay.

**GDOT Change** means:

(a) Any change in the scope of the Work or terms and conditions of the Technical Provisions or Technical Documents (including changes in the standards applicable to the Work) that GDOT has directed Design-Build Team to perform through a Supplemental Agreement as described in Article 13 (GDOT Changes; DB Team Changes; Directive Letters) or a Directive Letter pursuant to Article 13.1(Directive Letters); and

(b) Any other event that the DB Documents expressly state shall be treated as a GDOT Change.

**GDOT Claims Account** means the designated account for the benefit of GDOT and Design-Build Team to be administered and maintained by GDOT for payments on account of claims as required by GDOT pursuant to Article 17.3.4 (Damages; Offset).

**GDOT Default** has the meaning set forth in Article 17.5.1 (GDOT Default).

**GDOT Noise Barrier Change** has the meaning set forth in Volume 2, Section 22.3.1 (Environmental).

**GDOT Recoverable Costs** means:

(a) The costs of any assistance, action, activity or Work undertaken by GDOT which Design-Build Team is liable for or is to reimburse under the terms of the DB Documents, including the charges of third-party contractors, and reasonably allocated wages, salaries, compensation and overhead of GDOT staff and employees, performing such action, activity or Work (exclusive of ordinary and customary administration and review activities by GDOT employees or consultants, except for such consultant fees and expenses as expressly reserved in the Agreement); plus
(b) Third-party costs GDOT incurs to publicly procure any such third-party contractors; plus

(c) Reasonable fees and costs of attorneys (including the reasonably allocable fees and costs of the Georgia Attorney General’s Office), financial advisors, engineers, architects, insurance brokers and advisors, investigators, traffic and revenue consultants, risk management consultants, other consultants, and expert witnesses, as well as court costs and other litigation costs, in connection with any such assistance, action, activity or Work, including in connection with defending claims by and resolving disputes with third-party contractors; plus

(d) Any expense or cost for which GDOT is to be reimbursed by Design-Build Team pursuant to the express terms of the Agreement; plus

(e) Interest on all the foregoing sums at the Default Interest Rate from the date due under the applicable terms of the DB Documents and continuing until paid.

**GDOT Re-evaluation Period (Re-evaluation Period)** means the specified amount of time set forth as a condition in an approved ATC for GDOT to obtain the applicable Governmental Approval required for a re-evaluation of the NEPA/GEPA Approval, prior to Design-Build Team being entitled to a Relief Event or Compensation Event; provided, however, that such time shall commence upon the date that GDOT has received a full and complete document package from Design-Build Team required for GDOT to process such re-evaluation.

**GDOT Release(s) of Hazardous Materials** means, except as provided below, the introduction in, on or under the Construction Maintenance Limits or Operation and Maintenance Limits of Hazardous Material directly by GDOT, and their respective agents and contractors (excluding Design-Build Team). GDOT Release(s) of Hazardous Material excludes, however, (i) any Hazardous Materials so introduced that are in or part of construction materials and equipment incorporated into the Project and (ii) any Hazardous Materials identified in the phase 1 investigation and report described in clause (i) of the definition of Pre-Existing Hazardous Materials.

**GDOT Standard Specifications** means the Georgia Department of Transportation Standard Specifications, Construction of Transportation Systems.

**General Purpose Lanes** means Limited Access Highway lanes within the Existing Right of Way other than the Managed Lanes.

**Geotechnical Engineering Reports** means the reports which meet the requirements described in Volume 2, Section 8.3 (Design Requirements).

**GEPA** means the Georgia Environmental Policy Act, as amended and as it may be amended from time to time.

**GEPA Approval** means the (a) GEPA document as approved by GDOT including any studies, reports, Environmental Commitments, and all other procedural requirements and documents required for the Project or a portion of the Project, as (b) may be modified pursuant to all Georgia EPD, USACE, USFWS approvals, and approved supplements and re-evaluations pertaining to the Project.
**Good Industry Practice** means the exercise of the degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from time to time from a skilled and experienced designer, engineer, or constructor, seeking in good faith to comply with its contractual obligations, complying with the DB Documents, all applicable Laws and Governmental Approvals, and engaged in the same type of undertaking in the United States under similar circumstances and conditions.

**Governmental Approval** means any permit, license, consent, concession, grant, franchise, authorization, waiver, variance or other approval, guidance, protocol, mitigation agreement, special provision, or memoranda of agreement/understanding, and any amendment or modification of any of them provided by Governmental Entities including State, local, or federal regulatory agencies, agents, or employees, which authorize or pertain to the Project or the Work.

**Governmental Entity** means any federal, State or local government and any political subdivision or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or entity other than GDOT.

**Guarantor** means any Person that is the obligor under any guaranty in favor of GDOT required under the Agreement, including any Design-Build Guaranty.

**Hazardous Materials** means any element, chemical, compound, material or substance, whether solid, liquid or gaseous, which at any time is defined, listed, classified or otherwise regulated in any way under any Environmental Laws, or any other such substances or conditions (including mold and other mycotoxins or fungi) which may create any unsafe or hazardous condition or pose any threat to human health and safety. “Hazardous Materials” includes the following:

(a) Hazardous wastes, hazardous material, hazardous substances, hazardous constituents, and toxic substances or related materials, whether solid, liquid, or gas, including substances defined as or included in the definition of “hazardous substance”, “hazardous waste”, “hazardous material”, “extremely hazardous waste”, “acutely hazardous waste”, “radioactive waste”, “radioactive materials”, “bio-hazardous waste”, “pollutant”, “toxic pollutant”, “contaminant”, “restricted hazardous waste”, “infectious waste”, “toxic substance”, “toxic waste”, “toxic material”, or any other term or expression intended to define, list or classify substances by reason of properties harmful to health, safety or the indoor or outdoor environment (including harmful properties such as ignitability, corrosivity, reactivity, carcinogenicity, toxicity, reproductive toxicity, “TCLP” toxicity” or “EP toxicity” or words of similar import under any applicable Environmental Laws);

(b) Any petroleum, including crude oil and any fraction thereof, and including any refined petroleum product or any additive thereto or fraction thereof or other petroleum derived substance; and any waste oil or waste petroleum byproduct or fraction thereof or additive thereto;

(c) Any drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal resources;

(d) Any flammable substances or explosives;

(e) Any radioactive materials;
(f) Any asbestos or asbestos-containing materials;

(g) Any lead and lead-based paint;

(h) Any radon or radon gas;

(i) Any methane gas or similar gaseous materials;

(j) Any urea formaldehyde foam insulation;

(k) Electrical equipment which contains any oil or dielectric fluid containing regulated levels of polychlorinated biphenyls;

(l) Pesticides;

(m) Any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any Governmental Entity or which may or could pose a hazard to the health and safety of the owners, operators, Users or any Persons in the vicinity of the Project or to the indoor or outdoor Environment; and

(n) Soil, or surface water or ground water, contaminated with Hazardous Materials as defined above.

Hazardous Materials Management means procedures, practices and activities to address and comply with Environmental Laws and Environmental Approvals with respect to Hazardous Materials encountered, impacted, caused by or occurring in connection with the Project or the Work, as well as investigation and remediation of such Hazardous Materials. Hazardous Materials Management may include sampling, stock-piling, storage, backfilling in place, asphalt batching, recycling, treatment, clean-up, remediation, transportation and/or off-site disposal of Hazardous Materials, whichever approach is effective, most cost-efficient and authorized under applicable Law.


Highway means a travel way for vehicular traffic that is included in the State or federal highway system.

Highway Service Systems means GDOT’s or a Governmental Entity’s lighting and electrical systems, traffic control systems, communications systems and irrigation systems serving street or highway purposes (including ITS and Intelligent Vehicle Highway System facilities).

Historic Property means any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, either the National Register of Historic Places or the Georgia Register of Historic Places.

Immigration Act means the Georgia Immigration & Compliance Act, O.C.G.A. § 13-10-90, et seq. as set forth in Article 10.6.4.

Incident means any unplanned event during the course of construction.
Incident Management Plan means Design-Build Team’s plan for detection and response to Incidents or Emergencies, as part of the PMP.

Indemnified Parties means GDOT, the State, the State Transportation Board, and their respective successors, assigns, officeholders, officers, directors, commissioners, agents, representatives, consultants and employees. Indemnified Party shall mean any of the aforementioned.

Informal Consultation means during Section 7 Consultation (Endangered Species Act) that a Federal agency determines that its action may affect a listed species.

Instructions to Proposers (ITP) means the document that provides instructions to be followed by Proposers in their responses to the RFP.

Insurance Policies means all of the insurance policies Design-Build Team is required to carry pursuant to Article 16.1 (Insurance Policies and Coverage).

Intellectual Property means all current and future legal and/or equitable rights and interests in know-how, patents (including applications), copyrights (including moral rights), trademarks (registered and unregistered), service marks, trade secrets, designs (registered and unregistered), utility models, circuit layouts, plant varieties, business and domain names, inventions, solutions embodied in technology, and other intellectual activity, and applications of or for any of the foregoing, subsisting in or relating to the Project, Project design data or Project traffic data. Intellectual Property includes toll-setting and traffic management algorithms, and software used in connection with the Project (including but not limited to software used for management of traffic on the Project), and Source Code. Intellectual Property also includes the trade secret information contained in proprietary pricing information. Intellectual Property is distinguished from physical construction and equipment itself and from drawings, plans, specifications, layouts, depictions, manuals and other documentation that disclose Intellectual Property.

Intelligent Transportation System (ITS) has the meaning set forth in Volume 2, Section 17 (Intelligent Transportation Systems).

Intelligent Vehicle Highway System (IVHS) means smart vehicle and smart highway technologies to improve the safety, efficiency and environmental impact of highway facilities.

Interim Completion means satisfaction of the criteria for opening an Early Portion of the Work so that it is safe to open to the traveling public.

Interim Completion Date means the date upon which Design-Build Team has satisfied all conditions for opening an Early Portion of the Work so that it is safe to open to the traveling public.

Interim Completion Deadline means the deadline and required date for each of the Early Portions of the Work Interim Completion Deadlines are set forth in the Milestone Deadlines shown on Exhibit 9 to the Agreement, as such deadline(s) may be extended for Relief Events pursuant to the Agreement.

Interim Design means any submittal of Design Documents after the Preliminary Plans have been accepted but prior to submittal of Final Plans for the entire Project or any approved
Project segment. Interim Designs are intended to resolve conflicts and unresolved comments from the Preliminary Plans submittal.

**Joint Project Inspection** has the meaning set forth in Volume 2, Section 19.3.2.

**Key Contract** means any one of the following Contracts for Work that Design-Build Team or Design-Build Team’s Contractor’s causes to be performed:

(a) All prime construction Contracts;

(b) All project or program management services, architectural design, or engineering Contracts; and

(c) All other Contracts with a single Contractor or Subcontractor which individually or in the aggregate total in excess of $25 million.

**Key Contractor** means any Contractor or Subcontractor, as the case may be, under any Key Contract.

**Key Personnel** or **Key Team Members** means those individuals appointed by Design-Build Team and approved by GDOT from time to time to fill the “Key Personnel” positions. The specific individuals appointed by Design-Build Team and approved by GDOT to initially fill certain of the Key Personnel positions are identified in Exhibit 2 (Key Personnel and Other Proposal Commitments) to the Agreement.

**Landscape Enhancement Plan** has the meaning set forth in Volume 2, Section 15.3.1 (Landscape and Hardscape Enhancement Principles and Strategies).

**Law** or **Laws** means (a) any statute, law, code, regulation, ordinance, rule or common law, (b) any binding judgment (other than regarding a Dispute), (c) any binding judicial or administrative order or decree (other than regarding a Dispute), (d) any written directive, guideline, policy requirement or other governmental restriction (including those resulting from the initiative or referendum process, but excluding those by GDOT within the scope of its administration of the DB Documents or in the normal course of its adoption of new or revised technical standards pursuant to Article 7.2.5) or (e) any similar form of decision of or determination by, or any written interpretation or administration of any of the foregoing by, any Governmental Entity, in each case which is applicable to or has an impact on the Project or the Work, whether taking effect before or after the Effective Date, including Environmental Laws. “Laws”, however, excludes Governmental Approvals.

**Lead Contractor** shall mean the entity designated as a Proposer’s “Lead Contractor” in its SOQ. There may only be one Lead Contractor per Proposer team.

**Lead Engineering Firm** shall mean the entity designated as a Proposer’s “Lead Engineering Firm” in its SOQ. There may only be one Lead Engineering Firm per Proposer team.

**Line** or **line** means, in the context of Utilities or Highway Service Systems, a line, pipeline, conduit or cable used for utility purposes, including underground, surface or overhead facilities.
Liquidated Damages means such liquidated damages as may accrue and be due and payable by Design-Build Team to GDOT as set forth under Article 17.4 (Liquidated Damages and Nonrefundable Deductions) and as set forth under Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions) thereto.

Loss or Losses means any loss, damage, injury, liability, obligation, cost, response cost, expense (including attorneys’, accountants’ and expert witnesses’ fees and expenses (including those incurred in connection with the enforcement of any indemnity or other provision of the Agreement)), fee, charge, judgment, penalty or fine. Losses include injury to or death of persons, damage or loss of property, and harm or damage to natural resources.

Maintenance Acceptance means the point at which the DB Team has determined a portion of the Project has met all of the conditions of Substantial Completion for that portion of the Project and has made a written request for GDOT consideration, and GDOT has issued a written determination of Maintenance Acceptance, subject to the following:

(a) all work for that portion of the Project shall meet the standards for completion listed in Articles 7.7.1.3 through 7.7.1.5 and Article 7.7.2.1;

(b) upon satisfactory completion of all Punch List items for that portion of the Project, GDOT will issue a determination of Maintenance Acceptance for only that portion of the Project; and

(c) Maintenance Acceptance does not constitute Substantial Completion or Final Acceptance of the Work and is for the limited purpose of relieving the DB Team of responsibility for damage to that portion of the Project other than that attributable to the DB Team’s actions or inadequate construction.

Maintenance Management Plan has the meaning set forth in Volume 2, Section 19.3.3 (Maintenance Management Plan).

Major Culvert means a culvert that provides an opening of more than 35 square feet in a single or multiple installations. A Major Culvert may consist of a single round pipe, pipe arch, open or closed-bottom box, bottomless arch, or multiple installations of these structures placed adjacent or contiguous as a unit. Certain Major Culverts are classified as bridges when they provide an opening of more than 20 feet, measured parallel to the roadway; such culverts may be included in the bridge inventory.

Major Non-Participating Member means a Proposer’s Lead Contractor and Lead Engineering Firm. If any of these entities qualify as a Participating Member, then that entity shall not be treated as a Major Non-Participating Member. Major Non-Participating Members are not considered Contractors to Proposer regardless of their role in the performance of Project-related services.

Major River Crossing means a crossing with a 100-year storm event flow in excess of 10,000 cubic feet per second (cfs).

Management Plans means all of the management plans identified in Volume 2, Section 2 (Project Management).
Memorandum of Understanding (MOU) means a formal agreement between GDOT and one or more agencies, organizations or providers.

Milestone Deadline shall have the same meaning as Completion Deadline.

Minor Culvert means any culvert not classified as a Major Culvert.

Mobilization means Work performed to establish offices, plants, and facilities; and to move personnel, equipment, and supplies to the Project site to begin Construction Work.

NaviGAtor Contractor means that certain Separate Contractor engaged by GDOT to provide the NaviGAtor System to be included and integrated into the ITS to be incorporated into the Project, if such system is identified in Volume 2, Section 17 (Intelligent Transportation Systems) to be incorporated into the Project.

NaviGAtor System means the “NaviGAtor” advanced transportation management system to be included as a part of the ITS as set forth pursuant to Volume 2, Section 17.2.4 (Transportation Management Center (TMC) Improvements).

NaviGAtor Work means the work to be provided by the NaviGAtor Contractor, coordinated with the Work, for completion of the NaviGAtor System for the Project.

NEPA means the National Environmental Policy Act, 42 U.S.C. § 4321 et seq., as amended and as it may be amended from time to time.

NEPA Approval means the (a) NEPA document as approved by FHWA including any studies, reports, Environmental Commitments, and all other procedural requirements and documents required for FHWA approval for the Project or a portion of the Project, as (b) may be modified pursuant to all approved supplements and re-evaluations pertaining to the Project.

NEPA Finality Date means the date NEPA Approval becomes final and non-appealable and the federal statute of limitations for commencing legal action to challenge the validity of any NEPA Approval has expired.

Nonconforming Work means Work that does not conform to the requirements of the DB Documents, the Governmental Approvals, applicable Law or the Design Documents.

Nonrefundable Deductions means such nonrefundable deductions as may accrue and be due and payable by Design-Build Team to GDOT as set forth under Article 17.4 (Construction Requirements) and as set forth under Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions) thereto.

Notice of Award means formal acceptance of the Apparent Successful Proposer.

Notice of Termination for Convenience means written notice issued by GDOT to Design-Build Team terminating the Agreement in whole or in part for convenience.

NTP means a written notice issued by GDOT to Design-Build Team authorizing Design-Build Team to proceed with the portion or phase of the Work as being designated as subject to such notice to proceed in the Proposal Schedule, Project Schedule, or otherwise in the Agreement Documents, including without limitation NTP 1, NTP 2, and NTP 3.
NTP 1 means a written notice issued by GDOT to Design-Build Team authorizing Design-Build Team to proceed with the portion of the Work described in Article 3.3.1.1.

NTP 1 Conditions Deadline means the outside date set forth in the Milestone Deadlines (or the Baseline Project Schedule as to the extent such outside date is adjusted thereby) by which Design-Build Team is obligated under the Agreement to satisfy all conditions to issuance of NTP 1, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement.

NTP 2 means a written notice issued by GDOT to Design-Build Team authorizing Design-Build Team to proceed with the portion of the Work described in Article 3.3.1.2.

NTP 2 Conditions Deadline means the outside date set forth in the Milestone Deadlines (or the Baseline Project Schedule as to the extent such outside date is adjusted thereby) by which Design-Build Team is obligated under the Agreement to satisfy all conditions to issuance of NTP 2, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement.

NTP 3 means a written notice issued by GDOT to Design-Build Team pursuant to Article 3.3.1.3 authorizing Design-Build Team to proceed with the remaining Work and other activities pertaining to the Project.

NTP 3 Conditions Deadline means the outside date set forth in the Milestone Deadlines (or the Baseline Project Schedule as to the extent such outside date is adjusted thereby) by which Design-Build Team is obligated under the Agreement to satisfy all conditions to issuance of NTP 3, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement.

Open Book Basis means allowing the relevant Party to review all underlying assumptions and data associated with the issue in question, including, but not limited to, assumptions as to costs of the Work, schedule, composition of equipment spreads, equipment rates, labor rates, productivity, estimating factors, design and productivity allowance, contingency and indirect costs, risk pricing, discount rates, interest rates, inflation and deflation rates, and other items reasonably required by the relevant Party.


Optical Character Recognition (OCR) means the process of converting an image to text.

P&P Bonds or Performance and Payment Bonds means the bonds meeting the requirements of Article 16.2.1.

P&P Obligor means the Person identified as the obligor or account party in the P&P Bonds, as applicable.

Participating Agency means a public, quasi-public, or private agency that has agreed to cooperate with and assist Design-Build Team during an Emergency.
**Participating Member** means (a) if the Proposer is a joint venture, partnership, or limited liability company, each member of the joint venture, partnership or limited liability company; or (b) if the Proposer is a corporation or other corporate entity, the Proposer.

**Party** means Design-Build Team or GDOT, as the context may require, and “**Parties**” means Design-Build Team and GDOT, collectively.

**Payment Activity** shall have the meaning set forth in Volume 2, Section 2.6 (Payment Requests and Payment).

**Payment for Work Product** means the Stipulated Fee to be paid to unsuccessful responsive Proposers for their Work Product as described in Form N to the ITP.

**Payment Request** means the request for payment on account of the Work all in accordance with Volume 2, Section 2.6 (Payment Requests and Payment), and with the terms and conditions set forth in GDOT Standard Specification 109.03.

**Permanent Works** are permanent structures and parts thereof required of the completed DB Documents.

**Person** means any individual, corporation, joint venture, limited liability company, company, voluntary association, partnership, trust, unincorporated organization, Governmental Entity, or GDOT.

**Phase 1 Hazardous Materials Investigation** means an environmental assessment conducted in accordance with the DB Documents and ASTM E-1527-05, or any future revision or replacement thereof, to identify Recognized Environmental Conditions and potential Recognized Environmental Conditions.

**Plans** means (only where capitalized) contract drawings, working drawings, supplemental drawings, detail sheets or exact reproductions thereof, which show the location, character, dimensions and details of the Construction Work to be done.

**Pre-existing Hazardous Materials** means Hazardous Materials that meet all the following criteria:

(a) The Hazardous Materials are in, on or under the Right of Way as of the date GDOT makes available to Design-Build Team the affected parcel; or

(b) The Hazardous Materials are not located in, on or under any Project Specific Locations or Additional Properties, except Additional Properties required due to GDOT Changes (including GDOT Changes regarding the initial construction).

For purposes of determining whether Hazardous Materials were in, on or under the Right of Way or any Additional Properties required by GDOT to be included in the Property as a result of GDOT Changes, as of the date on which GDOT makes available to Design-Build Team the affected parcel, Design-Build Team shall have the burden of proof to demonstrate it was not a Design-Build Team Release of Hazardous Materials:

(i) As to any Hazardous Materials not identified as being present as of such date in the Phase 1 investigations of the Project conducted by GDOT prior to the Effective Date or any
Phase 1 Hazardous Materials Investigation or Phase 2 Hazardous Materials Investigation supplementing the foregoing report prepared prior to the Effective Date; and

(ii) As to any Additional Properties required by GDOT to be included in the Property as a result of GDOT Changes, any Phase 1 Hazardous Materials Investigation thereof prepared and delivered prior to the Effective Date.

For the purpose of this definition, “makes available” means:

(i) The Effective Date, except for parcels not yet acquired as of the Effective Date; and

(ii) As to parcels not yet acquired as of the Effective Date and as to Additional Properties required by GDOT to be included in the Property as a result of GDOT Changes, the date Design-Build Team first receives the right to take and maintain possession of the parcel for all purposes for the remainder of the Term in accordance with the DB Documents, including commencement of construction, as the result of GDOT’s having secured title or right of possession by contract or title instrument or by a special commissioners’ award through the eminent domain process or otherwise.

**Preliminary Plans** means the Design Documents which provide the preliminary design necessary for the related to construction, operations, and maintenance of the entire Project including any Utility Adjustments required by the Project.

**Presidential Disaster Declaration** means a declaration of a major disaster by the President of the United States triggering assistance from FEMA pursuant to the Disaster Relief Act of 1974 (Pub.L. No. 93-288, as amended).

**Price Proposal** means the price component of the Proposal evaluation as described in the ITP.

**Price Proposal Score** means the score calculated in accordance with the Price Proposal formula as described in the ITP.

**Principal Project Documents** means the Security Instruments and the Design-Build Contract.

**Professional Engineer** means a person who is duly licensed and registered by the Georgia State Board of Registration for Professional Engineers and Land Surveyors to engage in the practice of engineering in the State of Georgia.

**Professional Land Surveyor** means a person registered by the Georgia State Board of Registration for Professional Engineers and Land Surveyors to practice the profession of land, boundary, or property surveying or other similar professional practices.

**Project** means the Project as defined in the RFP, that is the subject of this Agreement, and which shall include the transportation facilities and all related structures, and improvements, including integration of the ITS, and communications systems used in connection with operation of such transportation facilities, to be designed and constructed pursuant to the terms of the DB Documents.
**Project Extension** means a linear addition to the original Project by Design-Build Team, including any at either terminus of the original Project and any linear improvement that interconnects with the original Project.

**Project Information Contact** means the person designated by Design-Build Team to manage Design-Build Team’s public information activities as more particularly described in Volume 2, Section 2.2.3 (Communications Support).

**Project Manager** means the individual designated by Design-Build Team and approved in writing by GDOT in the position to take full responsibility for the prosecution of the Work and will act as a single point of contact on all matters on behalf of Design-Build Team.

**Project Schedule** shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).

**Project Schedule Narrative** shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).

**Project Specific Locations** means any additional temporary property interests or rights, other than ROW or Additional Properties, which are not contiguous to the Property, that Design-Build Team may require for performance of the Work, including for temporary activities in connection with the Construction Work, such as construction work sites, temporary work areas, staging areas, storage areas, and earthwork material borrow sites.

**Project Schedule Update** shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).

**Property** has the meaning set forth in Article 2.2.1 and shall include only such property as identified in the Environmental Document Approval.

**Proposal** means the complete response to the RFP which may include the Proposer’s Administrative Information Submittals, Technical Proposal for the Project, and Price Proposal for the Project.

**Proposal Bond** means the security that Proposers submit to GDOT with their Proposals.

**Proposal Commitments** means statements, offers, terms, concepts or designs in Design-Build Team’s Proposal that are to a standard higher than required by the Agreement or Technical Provisions, or include terms advantageous to GDOT.

**Proposal Due Date** means the deadline for submission of the Proposal to GDOT as defined in the ITP Section 1.4 (Procurement Schedule).

**Proposal Revisions** has the meaning set forth in Section 5.4 (Request for Proposal Revisions) of the ITP.

**Proposal Schedule** means the high level, logic based, critical path schedule representing Design-Build Team’s plan to complete performance of the Work beginning on the date of NTP 1 to Final Acceptance of the Work, submitted with the Proposal.
Proposed Right of Way or Proposed ROW means the State Proposed/DB Team Acquired Right of Way and the State Proposed/State Acquired Right of Way.

Proposed Supplemental Agreement has the meaning set forth in Article 13 (GDOT Changes; DB Team Changes; Directive Letters).

Proposer or Proposers has the meaning set forth in Section 1.1 (Introduction) in the ITP.

Proprietary Intellectual Property means Intellectual Property created, used, applied or reduced to practice in connection with the Project or the Work that derives commercial value from its protection as a trade secret under applicable Law or from its protection under patent law.

Protection in Place means any action taken to avoid damaging a Utility which does not involve removing or relocating that Utility, including staking the location of a Utility, exposing the Utility, avoidance of a Utility's location by construction equipment, installing steel plating or concrete slabs, encasement in concrete, temporarily de-energizing power lines, and installing physical barriers. The term includes both temporary measures and permanent installations meeting the foregoing definition.

Provided Approvals means the Governmental Approvals for the Project obtained or to be obtained by GDOT, as specifically listed in Volume 2, Section 4.3 (Environmental Approvals) (including any such approvals as may be required from GDOT independent of GDOT’s Project administration pursuant to Article 6.2 (Governmental Approvals and Third-Party Agreements)).

Public Information and Communications Plan (PICP) has the meaning set forth in Volume 2, Section 2.2.3 (Communications Support).

Punch List means an itemized list of Construction Work that remains to be completed following Substantial Completion but as a condition to Final Acceptance, provided that the nature of any such incomplete Work, and the correction and completion of same, will have no material or adverse effect on the normal and safe use and operation of the Project.

Punch List Period means the time provided for Design-Build Team’s completion of Punch List Work, which shall be the time between Substantial Completion and Final Acceptance as provided in the Project Schedule.

QA means quality assurance.

QA/QC means quality assurance and quality control.

Quality Management Plan (QMP) means the set of GDOT-approved plans for quality management and control of the Project and Work, as set forth in Volume 2, Section 2.3 (Quality Management Requirements).

Quality Assurance Manager (QAM) means the individual retained by Design-Build Team as the Key Personnel with the authority and responsibility for ensuring establishment and maintenance of, and compliance with, the Quality Management Plan. The Quality Assurance Manager shall be a Professional Engineer as defined in this Exhibit 1.
**Quitclaim Deed** means a quitclaim deed to be executed by a Utility Owner relinquishing its rights to maintain a Utility in a particular location, as more particularly described in Volume 2, Section 6.2.2.2 (Real Property Matters).

**Railroad** means, depending on the context, either the right of way, tracks, and systems used for rail traffic in the vicinity of the Project, or the owners and/or operators of such rail systems.

**Railroad Right of Entry Agreement** has the meaning described in Volume 2, Section 14.2.3.2 (Railroad Contractor Right of Entry (CROE) Agreement(s)).

**Recognized Environmental Condition** has the meaning set forth in ASTM E-1527-00.

**Record Drawings** (also known as As-Builts, as-builts, or as-built drawings) means construction drawings and related documentation revised to show as-built changes to the Project at Final Acceptance. Interim marked-in-the-field or red-lined drawings to be provided during the progress of the Work as required pursuant to the Technical Provisions shall not constitute the final Record Drawings.

**Reference Information Documents (RIDs)** means the collection of information, data, documents and other materials that GDOT has provided to Design-Build Team for general or reference information only.

**Related Transportation Facility(ies)** means all existing and future highways, streets and roads, including upgrades and expansions thereof, that is/are or will be adjacent to, connecting with or crossing under or over the Project, as specifically identified in the Technical Provisions.

**Release for Construction** or RFC means the written authorization by GDOT to proceed with any designated phase of the Construction Work based on the approved Final Plans.

**Release of Hazardous Materials** means any spill, leak, emission, release, discharge, injection, escape, leaching, dumping or disposal of Hazardous Materials into the soil, air, water, groundwater or environment, including any exacerbation of an existing release or condition of Hazardous Materials contamination.

**Relief Event** means any one or more of the following events, subject to any limitations, claims, submission requirements, and other conditions set forth in the Agreement, provided that no relief will be available to the extent that (i) the events are within DB Team’s control or are due to any wrongful act, wrongful omission, negligence, recklessness, willful misconduct, breach of contract or Law or violation of a Governmental Approval of any of the DB Team-Related Entities; or (ii) the events (or the effects of such events) could have been avoided by the exercise of reasonable caution, due diligence, or other reasonable efforts by Design-Build Team:

(a) Force Majeure Event;

(b) Latent defects in Existing Improvements;

(c) Change in Law;
(d) Discriminatory Action;

(e) GDOT’s failure to perform or observe any of the covenants or obligations of GDOT under the Agreement or other DB Documents;

(f) GDOT Change;

(g) GDOT-Caused Delay;

(h) Performance of work in the Construction Maintenance Limits or Operations and Maintenance Limits, by Separate Contractors within the ROW, carried out by or on behalf of GDOT or a Governmental Entity, excluding any Utility Adjustment Work by a Utility Owner, that directly disrupts DB Team’s onsite Work, and delays the Critical Path of the Work;

(i) Discovery at, near or on the Existing Right of Way or Property of (a) any Pre-existing Hazardous Materials or Hazardous Materials not otherwise constituting a DB Team Release of Hazardous Materials, provided that where such condition was identified in the existing Phase 1 Hazardous Materials Investigation in the RIDs, in which case DB Team shall account for same in the Project Schedule and impacts shall be limited to such conditions not identified therein (whether in type or quantity), or (b) any archeological, paleontological or cultural resources not known or which could not have reasonably been known to the DB Team prior to the Proposal Due Date;

(j) Discovery at, near or on the Existing Right of Way or Property of any Threatened or Endangered Species (regardless of whether the species is listed as threatened or endangered as of the Proposal Due Date), excluding any such presence of species known to DB Team prior to the Proposal Due Date or that would become known to DB Team by undertaking reasonable investigation prior to the Proposal Due Date;

(k) Any spill of Hazardous Material by a third party who is not acting in the capacity of a DB Team-Related Entity which (i) occurs after the Proposal Due Date, (ii) is required to be reported to a Governmental Entity and (iii) renders use of the roadway or construction area unsafe or potentially unsafe absent assessment, containment and/or remediation;

(l) Issuance of a temporary restraining order or other form of injunction by a court that prohibits prosecution of any material portion of the Work, unless the injunction is the result of an action or inaction by the Design-Build Team;

(m) Suspension, termination or interruption of an approval of Environmental Documents, except to the extent that such suspension, termination or interruption results from failure by any DB Team-Related Entity to locate or design the Project or carry out the work in accordance with the approval of Environmental Documents or other Governmental Approval (which failure may include (i) modification by or on behalf of Design-Build Team of the design concept included in the Environmental Documents approval, (ii) means or methods used by any Design-Build Team-Related Entity for carrying out the Work, or (iii) decision or action by or on behalf of Design-Build Team to use or acquire Additional Property);

(n) Any change in the design concept of the Project or any portion thereof resulting from judicial or administrative action taken with respect to a legal challenge to any approval of Environmental Documents as compared to the design concept indicated in the alternative that was the subject of the approval of Environmental Documents, except to the extent the change in
design concept had already been incorporated into Design-Build Team’s design schematics assumed in connection with the Contract Sum;

(o) Subject to clause (s) of this definition of a Relief Event, failure to obtain, or unreasonable and unjustified delay in obtaining or otherwise maintaining once issued, a Governmental Approval from any Governmental Entity, except to the extent that such failure or delay results from failure by any Design-Build Team-Related Entity to locate or design the Project or carry out the work in accordance with the approval of Environmental Documents or other Governmental Approval (which failure may include (i) modification by or on behalf of Design-Build Team of the design concept included in the approval of Environmental Documents, (ii) means or methods used by any Design-Build Team-Related Entity for carrying out the Work, or (iii) decision or action by or on behalf of Design-Build Team to use or acquire Additional Property);

(p) GDOT’s (i) lack of good and sufficient title to any parcel in the Existing Right of Way or the Property, to the extent it interferes with or adversely affects performance of Work, (ii) inability or failure to obtain an interest (including by easement or other right of access) to real property not identified in the Proposed Right of Way and required for construction of the Project as demonstrated by Design-Build Team, exclusive of any Additional Properties, Project Specific Locations, or parcels that are solely for the convenience of Design-Build Team, to the extent it interferes with or adversely affects performance of Work, or (iii) the existence at any time following issuance of NTP 3 of any title reservation, condition, easement or encumbrance on any parcel in the Existing Right of Way or Property owned by GDOT, of record or not of record, to the extent it interferes with or adversely affects performance of Work, except any title reservations, conditions, easements or encumbrances concerning Utilities or otherwise caused, permitted or suffered by a Design-Build Team-Related Entity;

(q) Unreasonable and unjustified delay by a Utility Owner with whom Design-Build Team has been unable to enter into a Utility Agreement in connection with a Utility Adjustment, or failure or delay of any Utility in obtaining any required easement, right of way, or other property interest as may be required, provided that all of the “conditions to assistance” described in Article 7.5.4 (Failure of Utility Owners to Cooperate/Escalation) have been satisfied;

(r) Failure to obtain, or unreasonable and unjustified delay in obtaining, an approval from GDOT with respect to a Permitted Design Exception, except to the extent that such failure or delay in obtaining the GDOT approval results from failure by any Design-Build Team-Related Entity to carry out the Work in accordance with the DB Documents;

(s) Failure to obtain, or unreasonable and unjustified delay in obtaining, a Governmental Approval required for a re-evaluation of an approval of Environmental Documents due to an approved ATC; provided that Design-Build Team shall only be entitled to relief for such failure or delay after expiration of the applicable GDOT Re-evaluation Period; or

(t) Material delays as a result of any modification to the approval of Environmental Documents, as a result of the Environmental Documents, and all approved supplements and re-evaluations pertaining to the Project as of the Effective Date provided that any such modifications are not the result of an ATC, Additional Properties, or attributable to Design-Build Team’s design.
Relief Event Determination has the meaning set forth in the term “Relief Event” in Exhibit 1 (Acronyms and Definitions).

Relief Event Notice means the written notice required to be provided by Design-Build Team under Article 13.3.2 (DB Team’s Notice of Compensation Event and/or Relief Event).

Replacement Housing Calculation means the opportunity to provide the displaced person with the financial assistance to purchase or rent and occupy a comparable replacement dwelling without involuntarily incurring additional financial means due to the displacement.

Replacement Utility Property Interest means any permanent right, title or interest in real property outside of the Property (e.g., a fee or an easement) that is acquired for a Utility being reinstalled in a new location as a part of the Utility Adjustment Work. The term specifically excludes any statutory right of occupancy or permit granted by a Governmental Entity for occupancy of its real property by a Utility.

Request for Change Proposal means a written notice issued by GDOT to Design-Build Team setting forth a proposed GDOT Change and requesting Design-Build Team’s assessment of cost, and Project Schedule impacts thereof, as set forth in Article 13.2.1 (GDOT’s Request for Change Proposal).

Request for Information (RFI) means a written request by the Design-Build Team to GDOT requesting clarification of the DB Document requirements.

Request for Proposals (RFP) means all documents, whether attached or incorporated by reference, utilized for soliciting proposals. The RFP is the only solicitation utilized by the Department in the One Phase Low Bid selection method. The RFP is the second phase utilized by the Department for the Two Phase Low Bid and Best Value selection methods.

Request for Qualifications (RFQ) means all documents, whether attached or incorporated by reference, utilized by the Department for soliciting interested Proposers to apply for prequalification including instruction for submitting a Statement of Qualification (SOQ), evaluation criteria and minimum qualifications required of a Design-Build Team. The RFQ is the first phase of a two-phase process utilized by the Department for the Two Phase Low Bid and Best Value selection methods.

Reserved means a section of the DB Documents (Design-Build Agreement, Technical Provisions, or Programmatic Provisions) that is not being utilized for this contract. Sections marked Reserved have no requirements and references to sections marked Reserved shall mean that there are no additional requirements beyond the reference point.

Revised Baseline Project Schedule shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).

Right of Way (ROW) means the Existing Right of Way and Proposed Right of Way.

Right of Way Acquisition Plan or ROW Acquisition Plan has the meaning set forth in Volume 2, Section 7 (Right of Way (ROW) – Additional Properties).

Rules means Chapter 672-18 of the Rules of the State Department of Transportation, Governing the Design-Build Procedures.
**Safety Compliance** means any and all improvements, repair, reconstruction, rehabilitation, restoration, renewal, replacement and changes in configuration or procedures respecting the Project to correct a specific safety condition or risk of the Project that GDOT has reasonably determined to exist by investigation or analysis and that is in violation of the requirements of the DB Documents.

**Safety Compliance Order** means a written order or directive from GDOT to Design-Build Team to implement Safety Compliance measures.

**Safety Plan** has the meaning set forth in Volume 2, Section 2.4.1 (Safety Plan).

**Safety Standards** means those provisions of the Technical Provisions or Technical Documents that GDOT, FHWA, OSHA, or AASHTO considers to be important measures to protect public safety or worker safety. As a matter of clarification, provisions of Technical Provisions or Technical Documents primarily directed at durability of materials or equipment, where the durability is primarily a matter of life cycle cost rather than protecting public or worker safety, are not Safety Standards.

**Schedule of Values (SOV)** shall have the meaning set forth in Volume 2, Section 2.6 (Payment Requests and Payment).

**Schematic Plan of Project** means Design-Build Team’s Schematic Plan specific to the preliminary roadway plans showing the concept and technical solutions in accordance with the provisions of Exhibit C (Technical Proposal Submittal Requirements) of the ITP. A Schematic Plan may include but is not limited to standard design plan sheets, roll plots, and conceptual drawings.

**Security Document** means any mortgage, deed of trust, pledge, lien, indenture, trust agreement, hypothecation, assignment, collateral assignment, financing statement under the Uniform Commercial Code of any jurisdiction, security instrument or other charge or encumbrance of any kind, including any lease in the nature of a security instrument, given to any Person as security for Design-Build Team Debt or Design-Build Team’s obligations pertaining to Design-Build Team Debt and encumbering the Design-Build Team’s Interest.

**Selection Recommendation Committee** means the group of individuals authorized by GDOT (if any) to recommend the Best Value Proposer to the Steering Committee.

**Separate Contractor(s)** means each and any separate contractor or vendor engaged by GDOT or any other governmental authority or agency of the State to perform, provide, and/or supply work, services, labor or materials for the Project that is expressly excluded from Design-Build Team’s Work pursuant to the DB Documents.

**Service Line** means a Utility line, the function of which is to directly connect the improvements on an individual property to another Utility line located off such property, which other Utility line connects more than one such individual line to a larger system. However, unless otherwise noted in the Technical Provisions, the term “Service Line” excludes any line that supplies an active feed from a Utility Owner’s facilities to supply, activate or energize GDOT’s or a Governmental Entity’s Highway Service System. Such line, including its actual connection to the Utility facility, shall instead be considered to be part of the applicable Highway Service System.
**Site** means the Property and any temporary rights or interests that Design-Build Team may acquire in connection with the Project or the Utility Adjustments included in the Construction Work, including Project Specific Locations.

**Source Code** and **Source Code Documentation** mean software written in programming languages including all comments and procedural code, such as job control language statements, in a form intelligible to trained programmers and capable of being translated into object or machine readable code for operation on computer equipment through assembly or compiling, and accompanied by documentation, including flow charts, schematics, statements of principles of operations, architectural standards, and commentary, explanations and instructions for compiling, describing the data flows, data structures, and control logic of the software in sufficient detail to enable a trained programmer through study of such documentation to maintain and/or modify the software without undue experimentation. Source Code and Source Code Documentation also include all modifications, additions, substitutions, updates, upgrades and corrections made to the foregoing items.

**Staged Design Submittals** shall have the meaning set forth in Volume 2, Section 3.3.7.1 (Staged Design Submittals).

**Standard Utility Agreement (SUA)** means an Agreement providing for relocation or adjustment work to be performed by the Utility and/or its consultant or contractor and modification of easement limited provisions, if applicable. To the extent practical, reimbursement by the Department will be made based upon the Department’s specifications, agreements and forms or consultant and construction contract work. The payment method may be actual cost, unit price, or lump sum as appropriate.

**State** means the State of Georgia.

**State and Local Government Series (SLGS) Index** means the State and Local Government Series (SLGS) Index published and maintained by the United States Department of the Treasury.

**State Highway** means a highway designated as part of the state highway system under Code 32-4-21.

**Statement of Qualifications** or **SOQ** has the meaning set forth in Section 1.1 (Introduction) of the ITP.

**Stipulated Fee** means the amount GDOT will pay unsuccessful responsive Proposers for their Work Product.

**Subcontractor** means any other Person, including any Supplier with whom any Contractor has further subcontracted, purchased or procured any part of the Work, at all tiers.

**Submittal** means any document, work product or other written or electronic end product or item required under the DB Documents to be delivered or submitted to GDOT, as applicable.

**Substantial Completion** means satisfaction of the criteria for completion of Construction Work as set forth in Article 7.7 (Substantial Completion, Punch List, Final Acceptance; Early Opening of Portions of the Project), as and when confirmed by GDOT’s
issuance of a certificate in accordance with the procedures and within the time frame established in Article 7.7.1 (Substantial Completion).

**Substantial Completion Date** means the date upon which Design-Build Team has satisfied all conditions of and for Substantial Completion.

**Substantial Completion Deadline** means the deadline and required date for Substantial Completion of the Project as set forth in Exhibit 9 (Milestone Deadlines), as such deadline may be extended for Relief Events from time to time pursuant to the Agreement, time being of the essence.

**Subsurface Utility Engineering (SUE)** means an engineering process for accurately identifying the quality of overhead/underground utility information needed for highway plans, and for acquiring and managing that level of information during the development of a highway project, as more particularly described at the FHWA website [http://www.fhwa.dot.gov/programadmin/sueindex.cfm](http://www.fhwa.dot.gov/programadmin/sueindex.cfm).

**Supplemental Agreement** means a mutual agreement between GDOT and Design-Build Team for changes in the Work under Article 13 (GDOT Changes; DB Team Changes; Directive Letters), including on account of any Relief Event Determination and/or Compensation Event Determination as set forth under Article 13.4 (Final Relief Event and Compensation Event Determinations).

**Supplier** means any Person not performing work at or on the Site that supplies machinery, equipment, materials, hardware, software, systems or any other appurtenance to the Project to Design-Build Team or to any Contractor in connection with the performance of the Work. Persons who merely transport, pick up, deliver or carry materials, personnel, parts or equipment or any other similar items or persons to or from the Site shall not be deemed to be performing Work at the Site.

**Surety** means each properly licensed surety company, insurance company or other Person approved by GDOT, which has issued any of the P&P Bonds.

**Taxes** means federal, State, local or foreign income, margin, gross receipts, sales, use, excise, transfer, consumer, license, payroll, employment, severance, stamp, business, occupation, premium, windfall profits, environmental (including taxes under Section 59A of the Internal Revenue Code of 1986, as amended), customs, permit, capital stock, franchise, profits, withholding, social security (or similar), unemployment, disability, real property, personal property, registration, value added, alternative or add-on minimum, estimated or other taxes, levies, imposts, duties, fees or charges imposed, levied, collected, withheld or assessed at any time, whether direct or indirect, relating to, or incurred in connection with, the Project, the performance of the Work, any act, business, status or transaction of Design-Build Team, including any interest, penalty or addition thereto, and including utility rates or rents, in all cases whether disputed or undisputed.

**Technical Documents** means all the standards, criteria, requirements, conditions, procedures, specifications and other provisions set forth in the manuals and documents identified in the DB Documents, as such provisions may (a) have been generally revised from time to time up the RFP advertisement date, or (b) be changed, added to or replaced pursuant to the Agreement.
Technical Proposal means the technical component of the Proposal evaluation as described ITP.

Technical Provisions means Volume 2 as such documents may (a) have been generally revised from time to time that are in effect at the date of the RFP advertisement, or (b) be changed, added to or replaced pursuant to the Agreement.

Temporary Works is any temporary construction work necessary for the construction of the Permanent Works. This includes falsework, formwork, scaffolding, shoring, temporary earthworks, sheeting, cofferdams, special erection equipment, etc.

Term has the meaning set forth in Article 3.1 (Term of Agreement).

Termination by Court Ruling has the meaning set forth in Article 19.11.

Termination Compensation means each of the measure of compensation owing from GDOT to Design-Build Team upon termination of the Agreement prior to the stated expiration of the Term, pursuant to Article 19 (Termination), and as set forth in Exhibit 20 (Terms for Termination Compensation).

Termination Date means (a) the date of expiration of the Term or (b) if applicable, the Early Termination Date.

Termination for Convenience has the meaning set forth in Article 19.1.1.

Third-Party Claim means, subject to Article 16.5.4, any and all claims, disputes, disagreements, causes of action, demands, suits, actions, investigations, or legal or administrative proceedings asserted, initiated or brought by a Person that is not an Indemnified Party or Design-Build Team with respect to any Third-Party Loss.

Third-Party Loss means, subject to Article 16.5.4, any actual or alleged Loss sustained or incurred by a Person that is not an Indemnified Party or Design-Build Team.

Threatened or Endangered Species means any species listed by the USFWS as threatened or endangered pursuant to the Endangered Species Act, as amended, 16 U.S.C. §§ 1531, et seq.

Time-Impact Analysis (TIA) shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).

Traffic Management Center is a center for the management and distribution of information to Users on a regional or statewide basis.

Transferee means any party as defined pursuant to Article 21.2.2.1, solely for purposes of Articles 21.2 (Standards and Procedures for GDOT Acceptance) through 21.5 (Change of Organization or Name).

Transportation Management Plan means Design-Build Team’s plan for transportation management throughout the Term, as more particularly described in Article 9.2.2 and Volume 2, Section 18.3.1 (Transportation Management Plan).
Travel Lane means the portion of roadway for the movement of vehicles, exclusive of shoulders.

Two-Week Detail Schedule shall have the meaning set forth in Volume 2, Section 2.5 (Project Schedule Requirements).


Uninsurable Risk means a risk, or any component of a risk, against which Design-Build Team or a Contractor is required to insure pursuant to the Agreement and for which, at any time after the Effective Date, either:

(a) the insurance coverage required under the Agreement is not available in relation to that risk from insurers that meet the qualifications set forth in Article 16.1.2; or

(b) the terms and conditions for insuring that risk are such that the risk is not generally being insured against in the insurance market under commercially reasonable terms from insurers that meet the qualifications set forth in Article 16.1.2.

Utility or utility means any of the following:

(a) a public, private, cooperative, municipal and/or government line, facility or system used for the carriage, transmission and/or distribution of cable television, electric power, telephone, telegraph, water, gas, oil, petroleum products, steam, chemicals, hydrocarbons, telecommunications, sewage, and similar commodities, that directly or indirectly serves the public;

(b) a line, facility or system which (i) carries or transmits a commodity referenced in clause (a) above but does not directly or indirectly serve the public, and (ii) is designated in Volume 1 or Volume 2 to be treated, for purposes of the DB Documents only, in the same manner as a line, facility or system that qualifies as a Utility under clause (a) above; and

(c) a radio tower or transmission tower (including cellular) that directly or indirectly serve the public.

Notwithstanding the foregoing, the term “Utility” or “utility” excludes:

(a) all storm water lines, facilities, and systems that are part of the drainage system for the Property or connect to that system; and

(b) GDOT’s or a Governmental Entity’s Highway Service Systems.

The necessary appurtenances to each Utility facility shall be considered part of such Utility. Any Service Line connecting directly to a Utility shall be considered an appurtenance to that Utility, regardless of the ownership of such Service Line.

Utility Accommodation Manual (UAM) means the Utility Accommodation Manual issued by GDOT, as the same may be amended, supplemented or replaced by GDOT from time to time.
**Utility Adjustment Field Modification** means any horizontal or vertical design change to a Utility Adjustment required by Design-Build Team or proposed by a Utility Owner due either to roadway design or to conditions not accurately reflected in the corresponding Utility Work Plan for which the review and comment/approval process has been completed, that alters the design included in the approved Utility Work Plan. An example would be shifting the alignment of an 8” water line to miss a roadway drainage structure. A minor change (e.g., an additional water valve, an added Utility marker at ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification, but shall be shown in the Record Drawings.

**Utility Adjustment** means each relocation (temporary or permanent), abandonment, Protection in Place, removal (of previously abandoned Utilities as well as of newly abandoned Utilities), replacement, reinstallation, and/or modification of existing Utilities necessary to accommodate construction, operation, maintenance and/or use of the Project; provided, however, that the term “Utility Adjustment” shall not refer to any of the work associated with facilities owned by any railroad. For any Utility crossing the Property, the Utility Adjustment Work for each crossing of the Property by that Utility shall be considered a separate Utility Adjustment. For any Utility installed longitudinally within the Property, the Utility Adjustment Work for each continuous segment of that Utility located within the Property shall be considered a separate Utility Adjustment.

**Utility Adjustment Work** means all efforts and costs necessary to accomplish the required Utility Adjustments, including all coordination, design, design review, permitting, construction, inspection, maintenance of records, relinquishment of Existing Utility Property Interests, preparation of Utility Joint Use Acknowledgements, and acquisition of Replacement Utility Property Interests, whether provided by Design-Build Team or by the Utility Owners. The term also includes any reimbursement of Utility Owners which is Design-Build Team’s responsibility pursuant to Article 7.5 (Utility Adjustments). Any Utility Adjustment Work furnished or performed by Design-Build Team is part of the Work; any Utility Adjustment Work furnished or performed by a Utility Owner is not part of the Work.

**Utility Enhancement** means a Betterment or a Utility Owner Project, as referenced in Volume 2, Section 6.3.6.1 (Betterments).

**Utility Joint Use Acknowledgment** or **Utility Joint Use Agreement** means an agreement between GDOT and a Utility Owner that establishes the rights and obligations of GDOT and the Utility Owner with respect to occupancy of the Property by such Utility Owner’s Utility.

**Utility Manager (UM)** means the senior staff person designated by Design-Build Team to be responsible for coordination and oversight of Utility Adjustment operations during the planning, design, and construction phases of the Work, as more particularly described in Section 6.3.

**Utility Owner** means the owner or operator of any Utility (including both privately held and publicly held entities, cooperative utilities, and municipalities and other governmental agencies).

**Utility Owner Project** means the design and construction by or at the direction of a Utility Owner (or by Design-Build Team) of a new Utility installation other than (a) as part of a Utility Adjustment or (b) to provide service to the Project. Betterments are not Utility Owner Projects. Utility Owner Projects are entirely the financial obligation of the Utility Owner.
**Utility Tracking Report** means the report regarding Utilities likely to be impacted by the Project, which Design-Build Team shall maintain on a current basis, as more particularly described in Section 6.3.

**Utility Work Plan** has the meaning set forth in Volume 2, Section 6.3.8.5 (Utility Work Plan). Depending on the context, the term also refers to Supplemental Utility Work Plans and Utility Work Plan Retention Requests (both also described in Section 6.3.8.5).

**Utility Work Plan Checklist** means a checklist listing the required components of a Utility Work Plan, as referenced in Volume 2, Section 6.3.8.5 (Utility Work Plan).

**Utility Work Plan Retention Request** means the collection of plans and other information and materials which Design-Build Team is required to submit to GDOT in connection with each Utility proposed to remain at its original location within the Existing Right of Way or Property, as more particularly described in Volume 2, Section 6.3.2.2 (DB Team Design Activities); a single Utility Work Plan Retention Request may address more than one such Utility.

**Volume 1** means the Design-Build Agreement or the Agreement.

**Volume 2** means the project-specific and programmatic GDOT technical provisions entitled “Technical Provisions - Volume 2”.

**Warning Notice** means a written notice that GDOT delivers to Design-Build Team pursuant to Article 17.2 (Warning Notices).

**Work** means all of the work required to be furnished and provided by Design-Build Team under the DB Documents for the Project, including without limitation, all administrative, management, design, engineering, other professional services, construction, Utility Adjustment, utility accommodation, support services, ETCS and software integration, and coordination, except for those efforts which such DB Documents expressly specify will be performed by Persons other than Design-Build Team-Related Entities.

**Work Breakdown Structure (WBS)** means a deliverable-oriented hierarchical structure that breaks the Work into elements that have distinct identification and that contain specific scope characteristics. Each descending WBS level represents an increasingly detailed delineation of elements of the total Project scope. The WBS will contain all elements of the Work.

**Work Code** means a code assigned to a contract line item. Example: 400 is asphalt paving, 653 is highway traffic striping. The Work Codes were established and predefined by a GDOT Committee comprised of the Office of EEO, Construction, Bidding Administration, and Prequalification, in 2012. Not every item has a work code, only those items that are predominantly used on Highway construction projects. Contractors and Subcontractors in the GDOT directories are assigned work codes based upon their work description. Work codes are the most refined data available.

**Work Product** means any design files, concepts, ideas, technology, techniques, methods, processes, drawings, reports, plans and specifications used in the development of the Proposal including the proposal and any ATCs being acquired by GDOT from unsuccessful responsive Proposers.
EXHIBIT 2

KEY PERSONNEL AND OTHER PROPOSAL COMMITMENTS

[Proposer's organization chart, Form G – Form of Participating Members et al, Form K – Use of Contract Funds for Lobbying Certification, and Form L – Debarment and Suspension Certification to be provided with execution version]

- Proposal organization chart
- Form G – Form of Participating Members, Major Non-Participating Members, Contractors and Key Personnel Commitment of the Proposal
- Form K – Use of Contract Funds for Lobbying Certification
- Form L – Debarment and Suspension Certification
- Proposal Commitments as set forth in the Proposal as defined in the Agreement and hereby incorporated by reference, subject to the provisions of Article 1.2.2
- Approved and included ATCs
EXHIBIT 3

APPROVED ATCS
EXHIBIT 4

RESERVED
EXHIBIT 5

PROPOSAL SOV
EXHIBIT 6

RESERVED
EXHIBIT 7

RESERVED
### EXHIBIT 8

**FEDERAL REQUIREMENTS**

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ATTACHMENT 1 TO EXHIBIT 8

FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION FACILITIES

GENERAL. — The work herein proposed will be financed in whole or in part with federal funds, and therefore all of the statutes, rules and regulations promulgated by the federal government and applicable to work financed in whole or in part with federal funds will apply to such work. The "Required Contract Provisions, Federal-Aid Construction Contracts, Form FHWA-1273," are included in this Exhibit 8 (Federal Requirements). Whenever in said required contract provisions references are made to:

(a) "SHA contracting officer," "SHA resident engineer," or "authorized representative of the SHA," such references shall be construed to mean GDOT or its Authorized Representative;

(b) "contractor," "prime contractor," "bidder" or "prospective primary participant," such references shall be construed to mean Design-Build Team or its authorized representative and/or the Design-Build Contractor or its authorized representative, as may be appropriate under the circumstances;

(c) "contract" or "prime contract," such references shall be construed to mean the Design-Build Agreement;

(d) "subcontractor," "supplier," "vendor," "prospective lower tier participant" or "lower tier subcontractor," such references shall be construed to mean, as appropriate, Contractors other than the Design-Build Contractor; and

(e) "department," "agency" or "department or agency entering into this transaction," such references shall be construed to mean GDOT, except where a different department or agency is specified.

PERFORMANCE OF PREVIOUS CONTRACT. — In addition to the provisions in Section II, "NONDISCRIMINATION," and Section VI, "SUBLETTING OR ASSIGNING THE CONTRACT," of the Form FHWA-1273 required contract provisions, Design-Build Team shall cause the contractor to comply with the following:

The bidder shall execute the CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS located in the proposal. No request for subletting or assigning any portion of the contract in excess of $10,000 will be considered under the provisions of Section VI of the required contract provisions unless such request is accompanied by the CERTIFICATION referred to above, executed by the proposed subcontractor.

NON-COLLUSION PROVISION. — The provisions in this section are applicable to all contracts except contracts for Federal Aid Secondary Projects. Title 23, United States Code, Section 112, requires as a condition precedent to approval by the Federal Highway Administrator of the contract for this work that each bidder file a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any

PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES IN SUBCONTRACTING. — Part 26, Title 49, Code of Federal Regulations applies to this Project. Pertinent sections of said Code are incorporated within other articles or sections of the Agreement and any other Contract and the GDOT Disadvantaged Business Enterprise Program adopted pursuant to 49 CFR Part 26.

CONVICT PRODUCED MATERIALS

a. FHWA Federal-aid projects are subject to 23 CFR § 635.417, Convict produced materials.

b. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal aid highway construction project if such materials have been: (i) produced by convicts who are on parole, supervised release, or probation from a prison, or (ii) produced in a prison project in which convicts, during the 12 month period ending July 1, 1987, produced materials for use in Federal aid highway construction projects, and the cumulative annual production amount of such materials for use in Federal aid highway construction does not exceed the amount of such materials produced in such project for use in Federal aid highway construction during the 12 month period ending July 1, 1987.

ACCESS TO RECORDS

a. As required by 49 C.F.R. 18.36(i)(10), Design-Build Team and its Contractors shall allow FHWA and the Comptroller General of the United States, or their duly authorized representatives, access to all books, documents, papers, and records of Design-Build Team and Contractors which are directly pertinent to any grantee or subgrantee contract, for the purpose of making audit, examination, excerpts, and transcriptions thereof. In addition, as required by 49 C.F.R. 18.36(i)(11), Design-Build Team and its Contractors shall retain all such books, documents, papers, and records for three years after final payment is made pursuant to any such contract and all other pending matters are closed.

b. Design-Build Team agrees to include this section in each Contract at each tier, without modification except as appropriate to identify the Contractor who will be subject to its provisions.
ATTACHMENT 2 TO EXHIBIT 8

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS

FEDERAL-AID CONSTRUCTION CONTRACTS

I.  GENERAL
1.  Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2.  Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3.  A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4.  Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II.  NONDISCRIMINATION
The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.
The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth in laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedure whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review
indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor’s work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor’s association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualified minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT’s U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.
a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES
This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS
This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(2). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(ii) The classification is utilized in the area by the construction industry; and  

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the
employee’s social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

   (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

   (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

   (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratio and wage rates (expressed in percentages of the journeymen’s hourly rate) specified in the contractor’s or subcontractor’s registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice’s level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable
classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee’s level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid at not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wages rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor’s firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge
of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION
This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS
This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT
This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.
X. CERTIFICATION REGARDING DEBARTMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

   a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

   b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

   c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

   d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

   e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a contractor and subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Covered Transactions” refers to any covered transaction between a contractor and subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers to any participant knowing or having reason to know that the contractor or subgrantee of Federal funds is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

   g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

   h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epis.gov/), which is compiled by the General Services Administration.

   i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

   j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

   a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

      (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

      (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
1. The prospective participant certifies, by signing and submitting this proposal, to the best of his or her knowledge and belief, that:

   a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

   b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

   c. The prospective lower tier participant has learned that its certification was erroneous by reason of changed circumstances.

   d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers to any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

   e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

   f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

   g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the excluded parties list system website (https://www.epls.gov/), which is compiled by the General Services Administration.

   h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

   i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

   * * * * *

   Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Participants:

   1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

   2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

   * * * * *

   XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

   This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

   1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.
ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

   a. To the extent that qualified persons regularly residing in the area are not available.

   b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

   c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor’s permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for
ATTACHMENT 3 TO EXHIBIT 8

GDOT Special Provision
Modifications to FHWA Form 1273

1. Subsections IV.3(a); Delete the wording referencing “social security number” in the second sentence and substitute “and the last four digits of the social security number”.

ATTACHMENT 4 TO EXHIBIT 8

FEDERAL PREVAILING WAGE RATE

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

U. S. Department of Labor
General Decision Number: GA20190184 01/04/2019
Superseded General Decision Number: GA20180196

State: Georgia
Construction Type: Highway
County: Jackson County in Georgia.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR § 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR § 5.1(a)(2)-(60).

Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).
ATTACHMENT 5 TO EXHIBIT 8

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246) (43 FR 14895)

1. As used in these specifications:
   a. “Covered area” means the geographical area described in the solicitation from which this contract resulted;
   b. “Director” means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
   d. “Minority” includes:
      (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60–4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor’s or Subcontractor’s failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from
which this contract resulted are expressed as percentages of the total hours of employment and
training of minority and female utilization the Contractor should reasonably be able to achieve in
each construction trade in which it has employees in the covered area. Covered Construction
contractors performing construction work in geographical areas where they do not have a
Federal or federally assisted construction contract shall apply the minority and female goals
established for the geographical area where the work is being performed. Goals are published
periodically in the Federal Register in notice form, and such notices may be obtained from any
Office of Federal Contract Compliance Programs office or from Federal procurement contracting
officers. The Contractor is expected to make substantially uniform progress in meeting its goals
in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with
whom the Contractor has a collective bargaining agreement, to refer either minorities or women
shall excuse the Contractor’s obligations under these specifications, Executive Order 11246, or
the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in
meeting the goals, such apprentices and trainees must be employed by the Contractor during
the training period, and the Contractor must have made a commitment to employ the
apprentices and trainees at the completion of their training, subject to the availability of
employment opportunities. Trainees must be trained pursuant to training programs approved by
the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment
opportunity. The evaluation of the Contractor’s compliance with these specifications shall be
based upon its effort to achieve maximum results from its actions. The Contractor shall
document these efforts fully, and shall implement affirmative action steps at least as extensive
as the following:

   a. Ensure and maintain a working environment free of harassment, intimidation, and
      coercion at all sites, and in all facilities at which the Contractor’s employees are assigned to
      work. The Contractor, where possible, will assign two or more women to each construction
      project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-
      site supervisory personnel are aware of and carry out the Contractor’s obligation to maintain
      such a working environment, with specific attention to minority or female individuals working at
      such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources,
      provide written notification to minorities and female recruitment sources and to community
      organizations when the Contractor or its unions have employment opportunities available, and
      maintain a record of the organizations’ responses.

   c. Maintain a current file of the names, addresses and telephone numbers of each
      minority and female off-the-street applicant and minority or female referral from a union, a
      recruitment source or community organization and of what action was taken with respect to
      each such individual. If such individual was sent to the union hiring hall for referral and was not
      referred back to the Contractor by the union or, if referred, not employed by the Contractor, this
      shall be documented in the file with the reason therefor, along with whatever additional actions
      the Contractor may have taken.
d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor’s efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minority and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor’s employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor’s EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company’s EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor’s EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor’s EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor’s recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the-openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor’s work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc. such opportunities.
m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor’s obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually of all supervisors’ adherence to and performance under the Contractor’s EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor’s minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor’s and failure of such a group to fulfill an obligation shall not be a defense for the Contractor’s noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Contract or Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60–4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).
ATTACHMENT 6 TO EXHIBIT 8

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM
CRITERIA FOR ACCEPTABILITY

The purpose of this special provision is to establish criteria for acceptability of DBE firms for work performed on this contract. The intent is to ensure all participation counted toward fulfillment of the DBE goals is (1) real and substantial, (2) actually performed by viable, independent DBE owned firms, and (3) in accordance with the spirit of the applicable laws and regulations.

The policy of the Georgia Department of Transportation is to ensure compliance with Title VI of the Civil Rights Act of 1964, 49 Code of Federal Register, Part 26 and related statutes and regulations in all program activities.

To this end the Georgia Department of Transportation shall not discriminate on the basis of race, color, sex or national origin in the award, administration and performance of any Georgia Department of Transportation assisted contract or in the administration of its Disadvantaged Business Enterprise Program. The Georgia Department of Transportation shall take all necessary and reasonable steps to ensure nondiscrimination.

DBE payments and commitments for Federal-aid projects shall be separate and distinct and cannot be transferred or combined in any matter.

The DBE Goal specified in the contract will be a percentage representing the DBE Race Conscious Participation. The Contractor will strive to achieve an additional percentage in his/her contracts for all projects during the course of the current State Fiscal Year, in order to meet the overall Georgia Department of Transportation DBE goal.

DBE DIRECTORY: The Department has available a directory or source list to facilitate identifying DBEs with capabilities relevant to general contracting requirements and to particular solicitations. The Department will make the directory available to bidders and proposers in their efforts to meet the DBE requirements. The directory or listing includes firms which the Department has certified to be eligible DBEs in accordance with 49 CFR Part 26.

GOAL FOR PARTICIPATION: If a percentage goal for DBE participation in this contract is set forth elsewhere in this proposal, the Contractor shall complete the DBE GOALS Form included in the proposal. The Contractor is encouraged to make every effort to achieve the goal set by the Department. However, if the Contractor cannot find sufficient DBE participants to meet the goal established by the Department, the Department will consider for award a proposal with less participation than the established goal if:

(A) The bidder can demonstrate no greater participation could be obtained. This should be well documented by demonstrating the Contractor's actions through good faith efforts. The following is a list of types of actions which the Department will consider as part of the Contractor's good faith efforts to obtain DBE participation. This is not intended to be a mandatory checklist nor intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
(1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The Contractor must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The Contractor must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist DBEs participants in responding to a solicitation.

(4) (a) Negotiating in good faith with interested DBEs. Contractor(s) are responsible to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

   (b) Contractor(s) using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a Contractor to perform the work of a contract with its own organization does not relieve the Contractor of the responsibility to make good faith efforts. Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(5) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. nonunion employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.

(6) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the contractor.

(7) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women Contractors’ groups; local, state, and Federal minority/women
business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE’s.

(B) The participation proposed by the low bidder is not substantially less than the participation proposed by the other bidders on the same contract.

If no percentage goal is set forth in the proposal, the contractor may enter a proposed DBE participation. This voluntary DBE participation will count as race neutral DBE participation. Prime Contractor shall report race-neutral participation in accordance with the DBE Monthly Report requirements shown in this document.

To be eligible for award of this contract, All bidders will be required to submit the following information to the Department’s Contracting Officer as designated in Section 2.2.1 of the Instructions to Proposers (ITP) by the close of business on the 3rd working day following opening of the bid as a matter of bidder responsibility.

(1) The names and addresses of DBE firms committed to participate in the Contract;

(2) A description of the work each DBE will perform;

(3) The dollar amount of the participation of each DBE firm participating;

(4) Written documentation of the bidder’s commitment to use a DBE subcontractor whose participation it submits to meet a contract goal;

(5) Written confirmation from the DBE committed to participating in the contract, as provided in the prime contractor’s commitment.

(6) If the contract goal is not met, evidence of good faith efforts must be provided.

Failure by a bidder to furnish the above information may subject the bid to disqualification. Also failure by the bidder to submit satisfactory evidence of good faith efforts may subject the bid to disqualification.

Award of a contract by the Department to a Prime Contractor who has listed DBE participants with the bid may not constitute final approval by the Department of the listed DBE. The Department reserves the right to approve or disapprove a Disadvantaged firm after a review of the Disadvantaged firm’s proposal participation. Payment to the Contractor under the contract may be withheld until final approval of the listed DBEs is granted by the Department.

If the Contractor desires to substitute a DBE in lieu of those listed in the proposal, a letter of concurrence shall be required from the listed DBE prior to approval of the substitution, unless this requirement is waived by the Department.

Agreements between bidder and a DBE in which promises not to provide Subcontracting quotations to other bidders are prohibited.

**DEFINITION:** For the purposes of this provision, the following definitions will apply: Disadvantaged Business Enterprise or DBE means a for-profit small business concern –
(1) Ensuring at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and

(2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own the business.

Good Faith Efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Socially and Economically Disadvantaged Individual means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is –

(1) Any individual who the Department finds to be a socially and economically disadvantaged individual on a case-by-case basis.

(2) Any individual in the following groups, members of which are reputedly presumed to be socially and economically disadvantaged.

(i) “Black Americans,” which includes persons having origins, in any of the Black racial groups of Africa;

(ii) “Hispanic Americans,” which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;

(iii) “Native Americans,” which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(iv) “Asian-Pacific Americans,” which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalú, Nauru, Federated States of Micronesia, or Hong Kong;

(v) “Subcontinent Asian Americans,” which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;

(vi) Women;

(vii) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.
(3) GDOT will presume that such persons are socially and economically disadvantaged only to the extent permitted by applicable federal law.

Race-conscious measure is one focused specifically on assisting only DBEs, including women-owned DBEs.

Race-neutral measure is one being, or can be, used to assist all small businesses. For the purposes of this part, race-neutral includes gender-neutrality.

DISCRIMINATION PROHIBITED: No person shall be excluded from participation in, denied the benefits of, or otherwise discriminated against in connection with the award and performance of this contract on the grounds of race, color, sex or national origin.

The following assurance becomes a part of this contract and must be included in and made a part of each subcontract the prime contractor enters into with their subcontractors (49 CFR 26.13):

“The contractor, and/or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT – assisted contracts. Failure by the contractor to carry out these requirements is (breach) of this contract which may result in the termination of this contract or such other remedy as the Department deems appropriate.

Failure to Achieve Requirements: Periodic reviews shall be made by the Department to determine the extent of compliance with the requirements set forth in this provision. If the Contractor is found to be in noncompliance, further payments for any work performed may be withheld until corrective action is taken. If corrective action is not taken, it may result in termination of this contract.

Participation will be counted toward fulfillment of the DBE goal as follows:

(A) When a DBE participates in a contract, the Contractor counts only the value of the work actually performed by the DBE toward DBE goals.

(1) Count the entire amount of the portion of a construction contract (or other contract not covered by paragraph (A) (2) of this section) performed by the DBE’s own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).

(2) Count the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goals, provided the Department determines the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE’s subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.
(B) When a DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract the DBE performs with own forces toward DBE goals.

(C) Count expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.

(1) A DBE performs a commercially useful function when responsible for execution of the work of the contract and carrying out responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

(2) A DBE does not perform a commercially useful function if their role is limited to being an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

(3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of their contract with their own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the Department will presume the DBE is not performing a commercially useful function.

(4) When a DBE is presumed not to be performing a commercially useful function as provided in paragraph (C) (3) of this section, the DBE may present evidence to rebut this presumption.

(5) The Department’s decisions on commercially useful function matters are subject to review by the US DOT, but are administratively appealable to the US DOT.

(D) The following factors are to be used in determining whether a DBE trucking company is performing a commercially useful function:

(1) The DBE must be responsible for the management and supervision of the entire trucking operation for which they are responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.

(2) The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may lease trucks from another DBE firm, including an owner/operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provided on the contract.

(5) The DBE may also lease trucks from a non-DBE and is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive
credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.

(6) For purposes of this paragraph (D), a lease must indicate the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

(E) Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:

(1) (i) If the materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

(2) (i) If the materials or supplies are obtained from a DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this section, a regular dealer is a firm owning, operating, or maintaining a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(A) To be a regular dealer, the firm must be an established, regular business engaging, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(B) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph (E)(2)(ii) if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers’ own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(C) Packagers, brokers, manufacturers’ representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph (E)(2).

(3) With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided you determine the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.
(4) Do not count the participation of a DBE subcontractor toward the prime contractor's DBE achievements until the amount being counted toward the goal has been paid to the DBE.

(5) No participation will be counted not in compliance with Special Provision entitled “Criteria for Acceptability” which is a part of this contract or with any provisions included in 49 CFR Part 26.

(6) If the contract amount overruns, the contractor will not be required to increase the dollar amount of DBE participation. If the contract amount under runs, the contractor will not be allowed to under run the dollar amount of DBE participation except when the DBE subcontracted items themselves under run.

REPORTS

A: The contractor shall submit a “DBE Participation Report” on this contract monthly which shall include the following:

1. The name of each DBE participating in the contract.

2. A description of the work to be performed, materials, supplies, and services provided by each DBE.

3. Whether each DBE is a supplier, subcontractor, owner/operator, or other.

4. The dollar value of each DBE subcontract or supply agreement.

5. The actual payment to date of each DBE participating in the contract.

6. The report shall be updated by the Prime Contractor whenever the approved DBE has performed a portion of the work that has been designated for the contract. Copies of this report should be transmitted promptly to the Engineer. Failure to submit the report within 30 calendar days following the end of the month may cause payment to the contractor to be withheld.

7. The Prime Contractor shall notify the Project Engineer at least 24 hours prior to the time the DBE commences working on the project. The DBE must furnish supervision of the DBE portion of the work, and the person responsible for this supervision must report to the Project Engineer when they begin work on the project. They must also inform the Project Engineer when their forces will be doing work on the project.

B. In order to comply with 49 CFR 26.11, the Prime Contractor shall submit documentation regarding all payments made from the Prime to all DBE subcontractors on federal aid projects in the form of copies of cancelled checks or notarized electronic documentation which validates said payments made on the DBE Monthly Participation Reports. This information shall be required monthly and submitted with the DBE Monthly Participation Report.

C. Failure to respond within the time allowed in the request will be grounds for withholding all payments on all Contracts.
SUBSTITUTION OF DBEs: The Contractor shall make reasonable efforts to replace a DBE Subcontractor unable to perform work for any reason with another DBE. The Department shall approve all substitutions of Subcontractors in order to ensure the substitute firms are eligible DBEs.

CERTIFICATION OF DBEs: To ensure the DBE Program benefits only firms owned and controlled by Disadvantaged Individuals, the Department shall certify the eligibility of DBEs and joint ventures involving DBEs named by bidders.

Questions concerning DBE Certification/Criteria should be directed to the EEO Office at (404) 631-1972.
ATTACHMENT 7 TO EXHIBIT 8

DEBARMENT AND SUSPENSION CERTIFICATION

1. By signing and submitting its proposal or bid, and by executing the Agreement or and Contract, each prospective Design-Build Team member (at all tiers) shall be deemed to have signed and delivered the following certification:

   The undersigned certifies to the best of its knowledge and belief, that it and its principals:

   a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;

   b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

   c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

   d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (federal, state or local) terminated for cause or default.

2. Where the prospective Design-Build Team member is unable to certify to any of the statements in this certification, such Person shall attach a certification to its proposal or bid, or shall submit it with the executed Agreement or Contract, stating that it is unable to provide the certification and explaining the reasons for such inability.
CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

By signing and submitting its proposal or bid, and by executing the Agreement or any Contract, each prospective Design-Build Team and Contractor (at all tiers) shall be deemed to have signed and delivered the following:

1. The prospective Design-Build Team/Contract certifies, to the best of its knowledge and belief, that:
   a. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of ANY federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
   b. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with THIS Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions, and shall include a copy of said form in its proposal or bid, or submit it with the executed Agreement or Contract.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. Design-Build Team/Contractor shall require that the language of this certification be included in all lower tier Contracts which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

4. The undersigned certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the undersigned understands and agrees that the provisions of 31 U.S.C. §3801, et seq., apply to this certification and disclosure, if any.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each expenditure or failure.]

NOTE: DESIGN-BUILD TEAM AND EACH CONTRACTOR IS REQUIRED, PURSUANT TO FEDERAL LAW, TO INCLUDE THE ABOVE LANGUAGE IN CONTRACTS OVER $100,000 AND TO OBTAIN THIS LOBBYING CERTIFICATE FROM EACH CONTRACTOR BEING PAID $100,000 OR MORE.
COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, ETC.,
FOR FEDERAL-AID CONTRACTS

During the performance of this Agreement, Design-Build Team, for itself, its assignees and successors in interest (hereinafter referred to as the “Contractor”), agrees as follows:

1. **Compliance with Regulations:** Contractor will comply with the Regulations of the United States Department of Transportation (“USDOT”) relative to nondiscrimination in Federally-assisted programs of the USDOT (Title 49, Code of Federal Regulations, Part 21, hereinafter referred to as the “Regulations”), which are herein incorporated by referenced and made a part of this Agreement.

2. **Nondiscrimination:** Contractor, with regard to the work performed by it, will not discriminate on the ground of race, color, national origin, disability, sex, or age in the selection and retention of subcontracts including procurements of materials and leases of equipment. This will be done in accordance with Title VI of the Civil Rights Act of 1964 and other Non-Discrimination Authorities i.e., Section 504 of the 1973 Rehabilitation Act, the 1973 Federal-Aid Highway Act, the 1975 Age Discrimination Act, and the Americans with Disabilities Act of 1990. Contractor will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when contract covers a program set forth in Appendix B of the Regulations. In addition, Contractor will not participate either directly or indirectly in discrimination by 23 CFR 710.405(b).

3. **Solicitations for subcontracts, including procurements of materials and equipment:** In all solicitations, either by competitive bidding or negotiation made by Contractor for work to be performed under a subcontract, including procurements of materials or equipment, each potential subcontractor or supplier shall be notified by Contractor or Contractor’s obligations under this Agreement and the Regulations relative to nondiscrimination on the ground of race, color, national origin, disability, sex or age.

4. **Information and Reports:** Contractor will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the USDOT or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, Contractor shall so certify to the USDOT, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of Contractor’s noncompliance with the nondiscrimination provisions of this Agreement, the USDOT shall impose such sanctions as it or the Federal Highway Administration may determine to be
appropriate, including, but not limited to, those described in Section 3 of Exhibit 8, Attachment 2 to this Agreement.

6. **Incorporation of Provisions**: Contractor will include the provisions of paragraph (1) through (5) in every subcontract, including procurements of materials and lease of equipment, unless exempt by the Regulations, orders or instruction issued pursuant thereto. Contractor will take such action with respect to any subcontract or procurement as the USDOT or the Federal Highway Administration may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as result of such direction, Contractor may request the State to enter into such litigation to protect the interests of the State, and, in addition, Contractor may request the United States to enter into such litigation to protect the interest of the United States.
ATTACHMENT 10 TO EXHIBIT 8

COMPLIANCE WITH BUY AMERICA REQUIREMENTS

Design-Build Team shall comply with the Federal Highway Administration (FHWA) Buy America Requirement in 23 CFR 635.410, which permits FHWA participation in this Agreement only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the contract price under the Agreement.

Concurrently with execution of the Agreement, Design-Build Team has completed and submitted, or shall complete and submit, to GDOT a Buy America Certificate, in the format below. After submittal, Design-Build Team is bound by its original certification.

A false certification is a criminal act in violation of 18 U.S.C. § 1001. Should this Agreement be investigated, Design-Build Team has the burden of proof to establish that it is in compliance.

At Design-Build Team’s request, GDOT may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist. However, Design-Build Team certifies that it will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by GDOT. A request for a waiver shall be treated as a Change Request under Article 13.2 (GDOT Changes).
BUY AMERICA CERTIFICATE

[Insert Completed Form J in Executed Version]
ATTACHMENT 11 TO EXHIBIT 8

COMPLIANCE WITH THE CARGO PREFERENCE ACT

The Cargo Preference Act (CPA) establishes certain requirements for the use of privately owned United States-flag commercial vessels in transporting equipment, materials, and commodities by ocean vessel. Contractors are required to comply with the CPA requirements and 46 CFR 381 and are required to insert the substance of these provisions into any subcontracts issued pursuant to this contract.

Cargo Preference Act Requirements

All Federal-aid projects shall comply with 46 CFR 381.7 (a)-(b) as follows:

(a) Agreement Clauses. Use of United States-flag vessels:

(1) Pursuant to Pub. L. 664 (43 U.S.C. 1241(b)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(b) Contractor and Subcontractor Clauses. Use of United States-flag vessels: The contractor agrees:

(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the Gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.
The CPA requirements would be appropriate for oceanic shipments of materials or equipment that is intended for use on a specific Federal-aid project, such as a precast concrete structural members, fabricated structural steel, tunnel boring machines, or large-capacity cranes.

The CPA requirements are not applicable for goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project.

A test for whether CPA requirements apply or do not apply to shipped goods or materials would be if the goods or materials are what one would consider to be common inventory supplies for highway construction contractor, then CPA would **not apply**. If the materials or goods are considered to be supplies one would consider to be not common supplies of a highway construction contractor then CPA would **apply**.
ATTACHMENT 12 TO EXHIBIT 8

GDOT - APPENDIX A

During the performance of this Agreement, the DB Team, for itself, its assignees, and successors in interest (hereinafter referred to as the "DB Team"), agree as follows:

1. **Compliance with Regulations**
The DB Team shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter referred to as DOT), Title 49, Code of Federal Regulations, part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Agreement.

2. **Nondiscrimination**
The DB Team, with regard to the work performed by it during the Agreement, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The DB Team shall not participate either directly or indirectly in discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Agreement covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, including Procurement of Materials and Equipment**
In all solicitations either by competitive bidding or negotiations made by the DB Team for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the DB Team of the DB Team's obligations under this Agreement and the Regulations relative to nondiscrimination on the ground of race, color, sex, or national origin.

4. **Information and Reports**
The DB Team shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by GDOT or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of the DB Team is in the exclusive possession of another who fails or refuses to furnish this information, the DB Team shall so certify to GDOT, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance**
In the event of the DB Team's noncompliance with the nondiscrimination provisions of this Agreement, GDOT shall impose such contractual sanctions as GDOT or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
   a. Withholding of payments to the DB Team under the Agreement until the DB Team complies; and/or
   b. Cancellation, termination, or suspension of the Agreement, in whole or in part.
6. **Incorporation of Provisions**

The DB Team shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The DB Team shall take such action with respect to any subcontractor or procurement as GDOT or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the DB Team becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the DB Team may request GDOT enter into such litigation to protect the interests of the state and, in addition, the DB Team may request the United States to enter into such litigation to protect the interests of the United States.
EXHIBIT 9

MILESTONE DEADLINES

[Insert Table M-1 from ITP Form M in executed version]
HAZARDOUS MATERIALS RISK ALLOCATION TERMS

1. Design-Build Team shall be solely responsible for Hazardous Materials Management, including all required remediation and disposal of Hazardous Materials that constitute Design-Build Team Releases of Hazardous Materials or which are otherwise with respect to any Additional Properties or Project Specific Locations. Design-Build Team shall be responsible for all Hazardous Materials Management for Design-Build Team Release(s) of Hazardous Materials or with respect to Additional Properties, even if the required Hazardous Materials Management extends beyond the end of the Term or Final Acceptance of the Work.

2. Other than a Design-Build Team Releases of Hazardous Materials or with respect to any Project Specific Locations, GDOT shall, at its own expense shall manage, treat, handle, store, remediate, remove, transport (where applicable), investigate, oversee and dispose of such Hazardous Materials in accordance with applicable Law and Governmental Approvals or otherwise enter into a Supplement Agreement with the Design-Build Team, or order such Work pursuant to Directive Letter (provided that GDOT may not require any long term monitoring of Hazardous Materials under any such Directive Letter), with respect to same.

3. Notwithstanding the aforementioned or anything to the contrary in the Agreement, none of the following costs and expenses shall be chargeable to or reimbursed by GDOT:
   
   (a) Costs and expenses to the extent attributable to Design-Build Team Releases of Hazardous Materials;
   
   (b) Delay and disruption costs and expenses, except to the extent expressly set forth under the Agreement;
   
   (c) Costs and expenses that could be avoided by the exercise of commercially reasonable efforts to mitigate and reduce cost; and
   
   (d) Attorney’s fees or other expenses incurred by Design-Build Team in demonstrating or determining the proportionate responsibility between the parties as to Design-Build Team Releases of Hazardous Materials, GDOT Releases of Hazardous Materials, Pre-existing Hazardous Materials, and/or Hazardous Materials due to any third party.

4. Nothing contained herein shall be interpreted to limit Design-Build Team’s obligations with respect to **Articles 7.8 (Hazardous Materials Management) or 7.9 (Environmental Compliance)**.
EXHIBIT 12

RESERVED
EXHIBIT 13

RESERVED
EXHIBIT 14

DESIGN-BUILD TEAM’S DBE COMMITMENTS LIST

[Form H – Equal Employment Opportunity Certification and Form I – DBE Certification, DBE Commitments List to be provided with execution version]
EXHIBIT 15

CERTIFICATION OF COMPLIANCE WITH THE STATE OF GEORGIA’S SEXUAL HARASSMENT PREVENTION POLICY

[Insert completed Form U in executed version]
EXHIBIT 16

RESERVED
EXHIBIT 17

RESERVED
EXHIBIT 18

MEASURES OF LIQUIDATED DAMAGES and NONREFUNDABLE DEDUCTIONS

1.1 For Late Interim Completion(s), Late Substantial Completion, and Late Final Acceptance

(a) Liquidated Damages for late Interim Completion(s) shall equal $5,089 per day for each day that the Interim Completion Date(s) is later than the Interim Completion Deadline(s), as the Interim Completion Deadline(s) may be extended pursuant to this Agreement.

(b) Liquidated Damages for late Substantial Completion for the Project shall equal $5,089 per day for each day that the Substantial Completion Date is later than the Substantial Completion Deadline, as the Substantial Completion Deadline may be extended pursuant to this Agreement.

(c) Liquidated Damages for late Final Acceptance shall equal $5,089 per day for each day that the date of Final Acceptance is later than the Final Acceptance Deadline, as the Final Acceptance Date may be extended pursuant to this Agreement.

(d) Liquidated Damages on account of any failure to achieve Final Acceptance by the Final Acceptance Date shall not be cumulative and in addition to Liquidated Damages under subpart (b) above where Substantial Completion is not achieved by the Substantial Completion Deadline, provided that where any such Liquidated Damages under subpart (b) cease to then accrue as a result of achieving Substantial Completion, and the Final Acceptance Date, as may thereafter be revised is not met, subpart (c) shall then apply.

1.2 Incident Based Liquidated Damages

Liquidated Damages upon the occurrence of the following, which shall not be cumulative, for any single occurrence. Where there are multiple incidents as set forth below contributing to a single occurrence, the highest applicable incident based Liquidated Damages relative to such occurrence shall apply.

1  Closure or failure to reopen lanes outside the allowable times specified in Volume 2 Section 18.3.2.1.3 (1) $5,000 per hour*

2  Closure or failure to reopen lanes outside the allowable times specified in Volume 2 Section 18.3.2.1.3 (2) $5,000 per hour*

3  Closure or failure to reopen lanes outside the allowable times specified in Volume 2 Section 18.3.2.1.3 (3A) $3,000 per hour*

4  Failure to reopen lanes specified in Volume 2 Section 18.3.2.1.3 (3B) $3,000 per day*

5  Failure to reopen lanes specified in Volume 2 Section 18.3.2.1.3 (5) $3,000 per day*

*In addition to Liquidated Damages, DB Team shall be liable for any fines assessed against GDOT as a result of the any noncompliance event as provided herein.
1.3 Incident Based Nonrefundable Deductions

Nonrefundable Deductions upon the occurrence of the following, which shall not be cumulative, for any single occurrence. Where there are multiple incidents as set forth below contributing to a single occurrence, the highest applicable incident based liquidated damages relative to such occurrence shall apply.

<table>
<thead>
<tr>
<th>Incident</th>
<th>Deduction Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Replacement of an individual in a Key Personnel position after submission of the Proposal for any reason, except as allowed under Article 10.4.1.</td>
<td>$10,000 per occurrence</td>
</tr>
<tr>
<td>2. Unreasonable failure to comply with any of its responsibilities per the requirements of Volume 2, Section 2 (Project Management) including Project Management, Quality Management, Schedule, etc.</td>
<td>$10,000 per occurrence</td>
</tr>
<tr>
<td>3. Failure to follow Comprehensive Environmental Protection Program procedures as required by Volume 2, Section 4 (Environmental).</td>
<td>$5,000 per occurrence</td>
</tr>
<tr>
<td>4. Causing environmental damage in contravention of Volume 2, Section 4 (Environmental) and the latest approved Environmental Documents.</td>
<td>$5,000 per occurrence</td>
</tr>
<tr>
<td>5. Failure to maintain a Certified WECS on the work site per Volume 2, Section 4.2.2.11.</td>
<td>$1,000 per occurrence</td>
</tr>
<tr>
<td>6. Failure to follow the approved procedures outlined in the Utility Emergency Procedures Plan as required in Volume 2, Section 6 (Utility Adjustments).</td>
<td>$1,000 per occurrence</td>
</tr>
<tr>
<td>7. Failure to maintain a Certified WUCS on the work site per Volume 2, Section 6 (Utility Adjustments).</td>
<td>$1,000 per occurrence</td>
</tr>
<tr>
<td>8. Failure to establish and maintain traffic in accordance with an approved Transportation Management Plan in accordance with Design-Build Team’s Work, including in Related Transportation Facilities and GP traffic lanes as required by Volume 2, Section 18.2 (Administrative Requirements) and Section 18.3 (Design Requirements).</td>
<td>$2,500 per occurrence</td>
</tr>
<tr>
<td>9. Failure to maintain a Certified WTCS on the work site per Volume 2, Section 18.2.2</td>
<td>$1,000 per occurrence</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Failure to respond to the direction of GDOT within 45 minutes regarding Changeble Message Signs per Volume 2, Section 18.3.2</td>
</tr>
<tr>
<td>11</td>
<td>Damage caused by the DB Team to GDOT ITS device (camera, radar, VSLS, etc.) or enclosure. Or damage caused or loss of use to an existing ITS device.</td>
</tr>
<tr>
<td>12</td>
<td>Damage caused by the DB Team to GDOT ITS fiber optic trunk.</td>
</tr>
<tr>
<td>13</td>
<td>Failure to bring the GDOT ITS system (fiber optic trunk, electrical power, ITS device (camera, radar, VSLS, etc.)) back on line within 24 hours after damage or failure caused by the DB Team</td>
</tr>
</tbody>
</table>

*In addition to Nonrefundable Deductions, the DB Team shall be liable for any fines assessed against GDOT.

**In addition to Nonrefundable Deductions, the DB Team shall be liable for all costs of repairs of ITS equipment. ITS repairs will be done in accordance with Volume 2, Section 17.4.12 (ITS Repair and Replacement).
EXHIBIT 19

GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT AFFIDAVIT

[Insert completed Form R in executed version]
EXHIBIT 20

TERMS FOR TERMINATION COMPENSATION

A. Compensation on Termination for Convenience, for GDOT Default, or for GDOT Suspension of Work

1. In the event of termination of the Agreement under Article 19.1 (Termination for Convenience) or Article 19.4 (Termination for GDOT Default or Suspension of Work), the Termination Compensation shall equal:

   (i) That portion of the Contract Sum on account of (a) Work performed that has not already been paid; plus

   (ii) The amount necessary to reimburse reasonable and documented out-of-pocket costs of third party and Affiliate Contractors to demobilize and terminate under Contracts between Design-Build Team and third parties or Affiliates for performance of Work, excluding Design-Build Team’s non-contractual liabilities and indemnity liabilities (contractual or non-contractual) to third parties or Affiliates; plus

   (iii) If termination occurs prior to Substantial Completion, Design-Build Team’s own reasonable and documented out-of-pocket costs to demobilize (without duplication) and carry out termination obligations as may be directed by GDOT or required pursuant to the Agreement; minus

   (iv) The sum of (i) the greater of (A) the proceeds received from insurance (including casualty insurance and business interruption insurance) that is required to be carried pursuant to Article 16.1 (Insurance Policies and Coverage) and provides coverage to pay, reimburse or provide for any of the costs and losses attributable to any Force Majeure Event, and (B) the proceeds received from insurance that is actually carried by or insuring Design-Build Team under policies solely with respect to the Project and the Work, regardless of whether required to be carried pursuant to Article 16.1, and that provides coverage to pay, reimburse or provide for any of the costs and losses attributable to any Force Majeure Event (exclusive of payments on account of replacement Work performed and to be reimbursed under the builder’s risk insurance coverage), plus (ii) the foregoing costs and losses that Design-Build Team is deemed to have self-insured pursuant to Article 16.3.3; minus

   (v) The portion of any Compensation Amounts previously paid to (or charged against) Design-Build Team that compensated Design-Build Team for Work attributable to the period after the Early Termination Date.

2. In the event of termination of the Agreement under Article 19.1 (Termination for Convenience) or Article 19.4 (Termination for GDOT Default or Suspension of Work), any such Termination Compensation shall be payable by GDOT as follows:

   (i) For Termination for Convenience

      (a) Termination for Convenience shall be valid and effective on the date set forth in the Notice of Termination for Convenience, which date shall not be more than three (3) months after the date the notice is delivered.
(b) GDOT shall deliver to Design-Build Team, in immediately available funds, within sixty (60) days after the Early Termination Date, the Termination Compensation due, less a holdback amount equal to GDOT’s reasonable estimate of the costs Design-Build Team will thereafter incur to perform and complete its post-termination obligations under Article 19.5 (Termination Procedures and Duties), subject to Sections (ii)(b) - (d) below.

(ii) For Termination for GDOT Default or Suspension of Work

(a) If the Agreement is terminated due to Design-Build Team’s exercise of its right to terminate under Article 19.4 (Termination for GDOT Default, Suspension of Work, Force Majeure Event, or Materially Delayed Notice to Proceed), termination shall be valid and effective on the date notice of termination is delivered; and, subject to Articles 19.3.2 (Compensation to DB Team) and 19.4.4, GDOT shall deliver to Design-Build Team, in immediately available funds, within sixty (60) days after the Early Termination Date, the Termination Compensation due, less a holdback amount equal to GDOT’s reasonable estimate of the costs Design-Build Team will thereafter incur to perform and complete its post-termination obligations under Article 19.5. In the event that the Termination Compensation is negative, then the Design-Build Team shall deliver the Compensation Payment due to GDOT within sixty (60) days after the Early Termination Date.

(b) GDOT shall pay the holdback amount to Design-Build Team within ten (10) days after Design-Build Team completes all its post-termination obligations under Article 19.5.

(c) If as of the date GDOT tenders payment under clause (a) above the Parties have not agreed upon the amount of Termination Compensation due, then:

(i) GDOT shall proceed with such payment to Design-Build Team;

(ii) Within thirty (30) days after receiving such payment Design-Build Team shall deliver to GDOT written notice of the additional amount of Termination Compensation that Design-Build Team in good faith determines is still owing (the “disputed portion”);

(iii) GDOT shall pay the disputed portion of the Termination Compensation to Design-Build Team in immediately available funds within thirty (30) days after the disputed portion is determined by settlement, final order or final judgment, and also shall pay interest thereon, at the Default Interest Rate from the Early Termination Date until paid; and

(iv) A failure by GDOT to effect payment by such date shall not entitle Design-Build Team to reinstatement of the Design-Build Team’s Interest or to rescission of the termination.

(d) From and after the Early Termination Date until the Termination Compensation is finally determined and paid, the provisions of Article 19.10 (Access to Information) shall apply.
(e) If it is determined by settlement or final judgment that the Termination Compensation due from GDOT is less than the payment previously made by GDOT, then within thirty (30) days after the date of settlement or final judgment Design-Build Team shall reimburse the excess payment, together with interest thereon at the Default Interest Rate from the date of overpayment until the date of reimbursement.

(f) Any amounts to be paid by GDOT pursuant hereto shall be subject to Default Interest Rate from the date that such payment shall be due until paid.

B. Compensation on Termination for Design-Build Team Default

1. Design-Build Team shall not be entitled to receive any compensation where the Agreement is terminated by GDOT pursuant to Article 19.3 (Termination for DB Team Default) as a result of a Design-Build Team Default if it has been determined by GDOT that the damages incurred by GDOT and costs to complete the Work as a result of the Design-Build Team Default exceed the unpaid balance of the Contract Sum. In no event shall Design-Build Team be entitled to any direct costs, including demobilization, associated with a termination by GDOT pursuant to Article 19.3. In the event that the Termination Compensation is negative, then the Design-Build Team shall deliver the Compensation Payment due to GDOT within sixty (60) days after the Early Termination Date.

C. Claims

1. Notwithstanding anything to the contrary herein, Termination Compensation shall include and be adjusted on account of any outstanding Compensation Event that is independent of the event of termination and which is not otherwise resolved as of the effective date of such termination. The Parties shall adjust the Termination Compensation by the amount of the unpaid award, if any, on the Compensation Event.

2. At GDOT’s sole election, it may hold back from payment of the Termination Compensation for deposit into the GDOT Claims Account the amount of any claim of GDOT against Design-Build Team not resolved prior to payment. GDOT shall provide written notice to Design-Build Team of any such election, the subject claim and the amount deposited or to be deposited, prior to or concurrently with tendering payment of the Termination Compensation.

3. If as of the date GDOT tenders payment under clause (a) above the Parties have not agreed upon the amount of Termination Compensation due, then:

   (i) GDOT shall proceed with such payment to Design-Build Team;

   (ii) Within thirty (30) days after receiving such payment Design-Build Team shall deliver to GDOT written notice of the additional amount of Termination Compensation that Design-Build Team in good faith determines is still owing (the “disputed portion”);

   (iii) GDOT shall pay the disputed portion of the Termination Compensation to Design-Build Team in immediately available funds within thirty (30) days after the disputed portion is determined by settlement, final order or final judgment, together with interest thereon at the Default Interest Rate from the later of the two dates set forth in clause (a) above until paid; and
(iv) Failure by GDOT to effect payment by such date shall not entitle Design-Build Team to reinstatement of the Design-Build Team’s Interest or to rescission of the termination.

4. If it is determined by settlement or final judgment that the Termination Compensation due from GDOT is less than the payment previously made by GDOT, then within thirty (30) days after the date of settlement or final judgment Design-Build Team shall reimburse the excess payment, together with interest thereon at the Default Interest Rate from the date of overpayment until the date of reimbursement.
EXHIBIT 21

NON-COLLUSION AFFIDAVIT

[Insert Completed Form B In Executed Version]
EXHIBIT 22

INITIAL DESIGNATION OF AUTHORIZED REPRESENTATIVES

GDOT’s Authorized Representative:

GDOT hereby designates the persons from time to time serving as the Commissioner of GDOT as its Authorized Representatives and such other persons as the Commissioner may from time to time designate by delivering written notice thereof to Design-Build Team. Any such designations by the Commissioner may be limited in scope and duration and may be revoked at any time by delivery of written notice thereof to Design-Build Team pursuant to Article 24.11 (Notices and Communications).

Design-Build Team’s Authorized Representative:

Design-Build Team hereby designates the persons from time to time serving as the Chief Executive Officer of Design-Build Team as its Authorized Representatives and such other persons as the Chief Executive Officer may from time to time designate by delivering written notice thereof to GDOT. Any such designations by the Chief Executive Officer may be limited in scope and duration and may be revoked at any time by delivery of written notice thereof to GDOT pursuant to Article 24.11 (Notices and Communications).
EXHIBIT 23

Drug Free Workplace

[Insert completed Form T in executed version]
EXHIBIT 24

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

ESCROW BID DOCUMENTATION

Scope and Purpose
The purpose of this specification is to preserve the bid documents of the successful proposer (DB Team) for use by the parties in any claims or litigation between GDOT and DB Team arising out of this Design-Build Agreement (the “DB Agreement”).

The DB Team shall submit a legible copy of bid documentation used to prepare the bid for this DB Agreement to GDOT or their authorized representative at the Department, the Administrator of the Office of Bidding Administration. Such documentation shall be placed in escrow with a banking institution or other bonded document storage facility and preserved by that institution/facility as specified in the following sections of this specification.

Bid Documentation
The term "bid documentation" as used in this specification means all writings, working papers, computer printouts, charts, and all other data compilations which contain or reflect information, data, and calculations used by the DB Team to determine the bid in bidding for this project. The term "bid documentation" includes, but is not limited to, DB Team equipment rates, DB Team overhead rates, labor rates, efficiency or productivity factors, arithmetic extensions, and quotations from consultants, subconsultants, subcontractors, and material suppliers to the extent that such rates and quotations were used by the DB Team in formulating and determining the amount of the bid. The term "bid documentation" also includes any manuals which are standard to the industry used by the DB Team in determining the bid for this project. Such manuals may be included in the bid documentation by reference. Such reference shall include the name and date of the Publication and the Publisher. The term does not include bid documents provided by the Department for use by the DB Team in bidding on this project.

Submittal of Bid Documentation
The DB Team shall submit the bid documentation to GDOT or their authorized representative at the Department in a container suitable for sealing, no later than ten calendar days following award announcement of the DB Agreement by GDOT. A Notice to Proceed will not be issued until the acceptable documentation has been received. The container shall be clearly marked “Bid Documentation” and shall also show on the face of the container the DB Team's name, the date of submittal, the Project Number, the P.I. Number, the Contract Number, and the County(ies).

Affidavit
In addition to the bid documentation, an affidavit, signed under oath by an individual authorized by the DB Team to execute bidding proposals shall be included, as set forth in Attachment 1. The affidavit shall list each bid document with sufficient specificity so a comparison may be made between the list and the bid documentation to ensure that all of the bid documentation listed in the affidavit has been enclosed. The affidavit shall attest that the affiant has personally examined the bid documentation, that the affidavit lists all of the documents used by the DB Team to determine the bid for this project, and that all such bid documentation has been included.
Verification

Upon receipt of the bid documentation GDOT or their authorized representatives at the Department and the DB Team will verify the accuracy and completeness of the bid documentation compared to the affidavit. Should a discrepancy exist the DB Team shall immediately furnish GDOT or their authorized representative at the Department with any other needed total documentation. GDOT or their authorized representative at the Department, upon determining that the bid documentation is complete, will, in the presence of the DB Team's representative, immediately place the complete documentation and affidavit in the container and seal it. Both parties will deliver the sealed container to a banking institution or other bonded document storage facility selected by GDOT or their authorized representative at the Department for placement in a safety deposit box, vault or other secure accommodation.

Duration and Use

The bid documentation and affidavit shall remain in escrow during the life of the DB Agreement or until such time as the DB Team notifies GDOT of its intention to file a claim or its initiation of litigation against GDOT related to the Contract. Notification of the DB Team's intention to file a claim or litigation against GDOT shall be sufficient evidence for GDOT or their authorized representative to obtain the release and custody of the bid documentation. If no such notification is received and the DB Team has signed the final Standard Release Form, GDOT shall instruct the banking institution or other bonded document storage facility to release the sealed container to the DB Team, as set forth in Attachment 2.

The DB Team agrees that the sealed container placed in escrow contains all of the bid documentation used to determine the bid and that no other bid documentation shall be utilized by the DB Team in litigation over claims brought by the DB Team arising out of this contract.

Refusal or Failure to Provide Bid Documentation

Failure or refusal to provide bid documentation shall be deemed either:

1. Failure to execute the DB Agreement if the DB Agreement has not yet been executed or,
2. Material breach of the DB Agreement if the DB Agreement has been executed.

Should the DB Team fail to execute the DB Agreement as stated in 1 above, GDOT will retain the bid bond. Refusal of the DB Team to provide adequate documentation after execution of the DB Agreement will be considered material breach of the DB Agreement and the DB Team will be declared in default of the Contract. GDOT may, at its option terminate the DB Agreement for default. These remedies are not exclusive and GDOT may take such other action as is available to it under the law.

Confidentiality of Bid Documentation

The bid documentation and affidavit in escrow are, and will remain, the property of the DB Team. GDOT has no interest in, or right to, the bid documentation and affidavit other than to verify the contents and legibility of the bid documentation unless notification of the intention to file claim is received or litigation ensues between GDOT and DB Team. In the event of such notification or litigation, the bid documentation and affidavit shall become the property of GDOT.

Cost and Escrow Instructions

The cost of the escrow will be borne by the Department. GDOT or their authorized representative at the Department will provide escrow instructions to the banking institution or other bonded document storage facility consistent with this specification.
Escrow Agreement

A copy of the Escrow Agreement the successful bidder will be required to sign is provided as set forth in Attachment 3. The successful bidder (DB Team) agrees that they will sign the Escrow Agreement. Should the DB Team fail to sign the Escrow Agreement, when presented, GDOT will retain the bid bond. If the DB Agreement has been executed, and the DB Team fails to sign the Escrow Agreement, the DB Team may be declared in default of the Contract.

Payment

There will be no separate payment for compilation of the data, container or cost of verification of the bid documentation. All costs shall be included in the overall DB Agreement bid price.
STATE OF GEORGIA  
COUNTY OF FULTON

COMES NOW                     (Name)                     ,                      (Title) of     (Company Name)   
who, after having been duly sworn, on oath, state and depose as follows:

1.  

This Affidavit is based upon the personal knowledge of the Affiant.

2.  

(Company Name) submitted a bid on Georgia Department of Transportation Project No.________________________ _________________ COUNTY(IES) which bid was the best value bid, and a DB Agreement has been entered into between     (Company Name) _________________ and the Georgia Department of Transportation, known as DB Agreement No. _____________________________.

3.  

This Affidavit is given in compliance with the special provision entitled “ESCROW BID DOCUMENTATION” forming part of the DB Agreement Documents of DB Agreement No.__________ _________________.

4.  

The Affiant attests that, in his capacity for     (Company Name) _________________, he is personally aware the “Bid Documentation” which was used by the Company in determining, formulating, and submitting the bid on Project No._____. _______________COUNTY(IES).

5.  

The Affiant further states that he has examined the bid documentation which has been placed in a sealed container marked “Bid Documentation”, and that all such Bid Documentation utilized by the Company in determining, formulating, and submitting its bid is contained in the sealed container so marked.

6.  

Each bid document contained in the sealed container is separately listed on Exhibit A, which is attached hereto and incorporated herein as fully as if included in this Affidavit at this paragraph 6.
Further Affiant sayeth not.

(Company Name)

By: (Signature)

(Print Name)

Its: (Title)

Sworn to and subscribed before me this ________ day of ____________________, 20____.

________________________
NOTARY PUBLIC

My Commission expires: ______________________
EXHIBIT 24

Exhibit A to Attachment 1

[to be provided with executed version]
EXHIBIT 24
Attachment 2

ESCROW RELEASE OF BID DOCUMENTS

This is to certify that on this __________ day of ________, 20__, the sealed container identified as:

“Bid Documentation”

DB TEAM:
PROJECT NUMBER:
P.I. NUMBER:
CONTRACT NUMBER: DATE OF SUBMITTAL:

(Evidence by Agreement dated __________).

was released from escrow and personally handed to the below named individual acknowledging receipt, representing the DB TEAM/DEPARTMENT, by the ESCROW AGENT upon the presentation of the required documentation pursuant to Article IV of Attachment 3 to this Exhibit 24, Release from Escrow, of the agreement dated __________, 20__, a copy of such documentation is attached hereto.

Acknowledgment of Receipt:

Acknowledgment of Release:

______________________________________________________________

ESCROW AGENT
ESCROW CONTAINER SEAL NUMBERS:
THIS AGREEMENT is made and entered into this _______ day of ________, 20___, by and among the Georgia Department of Transportation; an agency of the State of Georgia, hereinafter called the “DEPARTMENT”; and ______________________; hereinafter called the "DB TEAM”; and (GDOT’s contracted escrow agent) ______________________, hereinafter called the "ESCROW AGENT".

WHEREAS, the Department awarded a project on ________, 20___, based on a bid proposal submitted by the DB TEAM, hereinafter called the "PROPOSAL", for the construction of Project Number __________, ___________, County(ies), Georgia, hereinafter called the "PROJECT", pursuant to which the DB TEAM shall cause the work therein to be designed and constructed; and

WHEREAS, the DEPARTMENT and DB TEAM are desirous of entering into an Escrow Agreement, to provide for specific contingencies governing the escrow and control of the PROPOSAL bid documentation; hereinafter called "BID DOCUMENTS"; and

WHEREAS, the DEPARTMENT and DB TEAM desire the ESCROW AGENT to hold the BID DOCUMENTS of the DB TEAM;

NOW THEREFORE, for and in consideration of the mutual covenants contained herein, it is agreed by and between the parties hereto that:

ARTICLE I
ESCROW BID DOCUMENTATION

The parties hereto agree to the establishment of Escrow of the BID DOCUMENTS for the PROPOSAL. It is the understanding of the parties hereto that the DEPARTMENT shall pay the ESCROW AGENT, as determined by separate agreement, for the escrow of the BID DOCUMENTS submitted to the ESCROW AGENT under the terms of this Agreement.

ARTICLE II
ACKNOWLEDGMENT

By its signature below, the ESCROW AGENT hereby acknowledges receipt from the DEPARTMENT and DB TEAM of a sealed container bearing the DB TEAM'S name, address and
Project Number assigned by the DEPARTMENT and containing, as specified by the affidavit of the DB TEAM, the PROPOSAL BID DOCUMENTS for the aforementioned PROJECT.

ARTICLE III
DEPOSIT OF BID DOCUMENTS

The PROPOSAL BID DOCUMENTS shall remain on deposit with the ESCROW AGENT until those conditions of release, as specified in ARTICLE IV, RELEASE FROM ESCROW, are met. As long as the BID DOCUMENTS remain in escrow with the ESCROW AGENT, the ESCROW AGENT shall not allow any person access, to gain possession, or to in any way interfere with the sealed BID DOCUMENT container.

ARTICLE IV
RELEASE FROM ESCROW

Upon being presented, by the DEPARTMENT with a DB TEAM signed final Standard Release Form for the DB Agreement for the PROJECT, the ESCROW AGENT shall deliver to the DB TEAM the sealed container bearing the DB TEAM'S name and address and project number on it. The ESCROW AGENT is also authorized to release the BID DOCUMENT sealed container to the DEPARTMENT without the DB TEAM'S signed consent subject to the following conditions:

1. The DB TEAM has provided written notification to the Department of the DB TEAM'S intention to file a claim related to the DB Agreement for the PROJECT; or

2. The DB TEAM has initiated litigation against the Department relating to the DB Agreement for the PROJECT.

Prior to any release from escrow to the DEPARTMENT, the ESCROW AGENT shall verify that either condition of release to the Department, as stated above, has been met by providing written notice to the DB TEAM of the ESCROW AGENT'S intention to release the PROPOSAL BID DOCUMENTS to the DEPARTMENT. Such written notice from the ESCROW AGENT shall be sent by certified mail no less than ten (10) calendar days prior to release to the DEPARTMENT. Upon any release from escrow of the PROPOSAL BID DOCUMENT container the ESCROW AGENT shall cause the execution of Attachment 2, Escrow Release for PROPOSAL BID DOCUMENTS, as attached hereto and incorporated herein as if fully contained, by the party receiving the BID DOCUMENT container.
ARTICLE V
INDEMNITY

The DB TEAM agrees to indemnify and hold the ESCROW AGENT harmless against any loss, claim, damage, liability or expenses incurred in connection with any action, suit, proceeding, claim or alleged liability arising from this Escrow Agreement, provided, however, that the ESCROW AGENT shall not be so indemnified or held harmless for its negligence or acts of bad faith by it or any of its agents or employees.

ARTICLE VI
NOTICES

All notices and other communication shall be in writing and shall be deemed to have been duly given and delivered if mailed by certified mail, return receipt requested, postage prepaid to the addresses stated herein:

DEPARTMENT:
Georgia Department of Transportation
ATTN: General Counsel
600 West Peachtree Street
Atlanta, Georgia 30308

DB TEAM:
[DB Team name]
[Attention: name]
[Address 1]
[Address 2]

ESCROW AGENT:
[GDOT’s contracted escrow agent]
[Attention: name]
[Address 1]
[Address 2]
ARTICLE VII
DUTIES OF ESCROW AGENT

The duties and responsibilities of the ESCROW AGENT shall be limited to those expressly set forth herein and the ESCROW AGENT shall act only in accordance with this ESCROW Agreement.

Notwithstanding specific provisions hereunder, the ESCROW AGENT shall at all times act upon and in accordance with the joint written instructions of the DEPARTMENT and DB TEAM.

ARTICLE VIII
LAWS

This Escrow Agreement shall be deemed to have been executed in Fulton County, Georgia and the laws of the State of Georgia shall apply.

ARTICLE IX
ASSIGNMENT

This Escrow Agreement shall not be assigned without the written consent of all the parties hereto.

ARTICLE X
SURVIVAL OF CONTRACT

Except as may be expressly modified, all terms and conditions of this Escrow Agreement remain in full force and effect. The establishment of this Escrow Agreement is limited solely by the contingency of release of the PROPOSAL BID DOCUMENTS by the DB TEAM to the DEPARTMENT, as established by Article IV, Release From Escrow. Nothing contained herein shall alter the rights of the parties hereto.

The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.
IN WITNESS WHEREOF, the parties hereunto set their hands and seals the day above first written.

DB TEAM:  
BY:  
(SEAL)  
TITLE:  

ESCROW AGENT:  
BY:  
(SEAL)  
TITLE:  

WITNESS  

DEPARTMENT:  
BY:  
(SEAL)  
TITLE:  

WITNESS  

ESCROW CONTAINER SEAL NUMBERS:
EXHIBIT 25

OPINION OF COUNSEL

[Refer to Form S for appropriate format]
Georgia Department of Transportation

VOLUME 2

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

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1 GENERAL

1.1 General Overview
This Section 1 provides a general description of the Project and certain requirements. Comply with all requirements set forth in the DB Documents. Ensure the Design Documents for the Project are consistent with the following:

1. Environmental Documents Approvals
2. Approved Concept Report

1.2 Administrative Requirements

1.2.1 Errata to the Technical Provisions
Interpret the Technical Provisions and GDOT standards, policies, and specifications in accordance with Volume 1, Article 1.6 (Errata to the GDOT Standard Specifications).

1.2.2 Prequalification
All Design Work must be performed by entities prequalified by GDOT in the respective discipline at the time the Design Work is performed or at any time that Design Work is needed during the construction phase because of conditions in the field.

1.3 Design Requirements

1.3.1 General Design Requirements
Adhere to the requirements of the Agreement and the Technical Provisions for the general administration and management of the Project, specifically including those provisions in Section 2 (Project Management) and Section 3 (Design and Submittals).

Coordinate with GDOT, adjacent Governmental Entities, and other third parties as appropriate to determine the design criteria, standards, and specifications of those components of Work that are constructed by the DB Team but maintained by others. For components of Work that impact or may impact the infrastructure of any Governmental Entity or third-party entity, conform to the design requirements of such entity.

The DB Team is encouraged to stage construction so that continuous portions of roadway can be opened to traffic prior to Substantial Completion. The DB Team must notify and seek concurrence from GDOT on its determination to open any continuous section of roadway to traffic. The Department may direct the DB Team to open any continuous safe to open three-mile section of roadway to traffic within 30 days of its completion in accordance with Volume 1, Article 7.7.4 (Early Opening of Portions of the Project). The DB Team will have 10 days to comply with the Department’s request.

1.3.2 Project Scope
Design and construct the Project as required by the DB Documents, including design, design-related activities, permitting, Utility Adjustments, construction, and related Work.
Do not rely on the physical description contained herein to identify all Project components. Determine the full scope of the Project through thorough examination of the DB Documents and the Project or as may be reasonably inferred from such examination.

The Work includes the design and construction of the I-85 Widening from North of State Route (SR) 53 to North of SR 11/US 129 project as required by the Design-Build Agreement. All widening will be into the existing median. The construction of the median includes installation of barrier protection measures consisting of concrete barrier. Construction of overpass bridges must accommodate an eight-lane section. Pavement designs for asphalt are included in Volume 2, Attachment 11-2 (Pavement Design).

All termini points described in this Section or elsewhere in the DB Documents is the northern termini of the lane regardless of direction of travel.

For North Bound (NB) widening, the proposed lane will terminate as an outside lane drop at US 129. For South Bound (SB) widening, the beginning of the proposed lane will be constructed as an inside addition starting at the US 129 interchange.

Mill and overlay all lanes of the existing roadway for all laneage and shoulders. Replace all striping and pavement markers affected by the mill and overlay as part of this contract.

If traffic is shifted onto the outside shoulder for construction staging, the outside shoulder shall be replaced for the necessary width of pavement plus an additional two feet. The maximum width of outside shoulder replacement will be 12 feet as required by Volume 2, Section 11 (Roadways).

Install all regulatory signage.

Construct the Project entirely within the existing ROW. Any design changes that require additional ROW will not be considered.

Clear the area required for construction activities and attaining clear zone, and remove debris.

Limits of ramp design and construction will be the minimum required to tie the proposed mainline configuration into the existing ramp.

Reset any disturbed existing survey monuments. A file containing the locations of the existing survey monuments has been as a RID.

Additional scope items are listed below:

Replace SR 332 overpass bridge. SR 332 closures during the bridge construction will be allowed in accordance with the restrictions for in Section 18.3.2.1.3 (3) (Lane and Shoulder Closure During Design-Build Period). Coordination with PI# 0013609 (SR 332 at Walnut Creek and Overflow Bridge Replacements) will be required. Accommodate road closure alignment between the two projects if it can be achieved.

Replacement of the existing I-85 NB and SB bridges over Walnut Creek to accommodate three General Purpose lanes and shoulders as required elsewhere in the DB Documents.
Replacement of the existing I-85 NB and SB bridges over CSX Railroad to accommodate three General Purpose lanes and shoulders as required elsewhere in the DB Documents.

Replacement of the existing I-85 NB and SB bridges over Middle Oconee River to accommodate three General Purpose lanes and shoulders as required elsewhere in the DB Documents.

### 1.3.3 Transitions to Adjacent Infrastructure, Roadways and Facilities

Design and construct Project transitions and interconnections with adjacent infrastructure, roadway, facilities, and related appurtenances for compatibility and uniformity with all interfaces. Coordinate with Persons, including other contractors performing Work at or adjacent to the Site, to provide seamless transitions from the Project to any Work proposed, being developed, or existing. Remove any temporary transitions that are not intended to accommodate permanent traffic operations connecting the proposed improvements to existing roadways, and restore all areas within the Work or impacted by the Work. Minimize disruption to traffic operations and adjacent property access throughout the performance of the Work.
2 PROJECT MANAGEMENT

2.1 General Requirements

2.1.1 Management Organization
Establish and maintain an organization that effectively manages all Elements of the Work. Operate an organization that communicates with GDOT to efficiently and effectively identify and resolve project delivery issues.

2.1.1.1 Project Meetings
Include all appropriate staff necessary at each meeting to make decisions regarding the subject matter to progress the Project and maintain the Project Schedule. Lead and facilitate the meetings; prepare and distribute meeting agendas a minimum of 24 hours in advance and prepare and distribute meeting minutes within three Business Days after the meeting. Hold additional meetings and cause additional staff to attend all meetings if requested by GDOT or its representatives. In addition, at a minimum, hold, participate in, and prepare minutes for the following regular meetings with GDOT.

2.1.1.1.1 Weekly Meeting Requirements
No requirements.

2.1.1.1.2 Twice Monthly (every Two Weeks) Meeting Requirements
Design and construction meetings to address such items as design coordination, submittals review, ITS communications, and traffic interruption reports.

2.1.1.1.3 Monthly Meeting Requirements
1. Project Schedule Review Meeting (held the first week of each month)
2. Payment Request/Progress Status Team Meeting (held the first week of each month)

As the Project progresses, hold work sessions with GDOT on Project technical design elements; these may include roadways, structures, Utility relocations, drainage and MS4, and other disciplines as needed to facilitate timely input from GDOT.

2.1.2 Requirements for GDOT Office and Equipment
Provide a Type 3 Engineer’s Field Office as specified in Section 153 of the GDOT Standard Specifications. Provide high-speed internet connectivity per Section 2.1.4 (Project Management Controls System (PMCS)).

2.1.3 Partnering
Partnering is a process of collaborative teamwork that allows groups to achieve measurable results through agreements, productive working relationships, and achievement of the parties’ mutual goals. Participate in partnering meetings to commence 15 days after NTP 1 and occur at approximately 90-day intervals thereafter, or as otherwise agreed to by GDOT and the DB Team, until Final Acceptance. Include senior leadership of the Lead Contractor and Lead Design Consultant, relevant project managers, and/or pertinent subcontractors. GDOT will facilitate such
meetings, which may include senior leadership from GDOT and/or other relevant stakeholders including FHWA. Each party will pay its own personnel and travel related costs. Any mutually incurred cost, such as meeting room cost associated with partnering will be agreed to by both the DB Team and GDOT and will be shared equally with no change in the Contract Amount. The DB Team shall pay all such shared costs and submit paid invoices to GDOT for 50 percent reimbursement.

2.1.4 Project Management Controls System (PMCS)

Use the Project Management Controls System (PMCS), provided by GDOT, throughout the Term of the Agreement for document management and transmittal, including workflows, file storage, communication, and correspondence.

This PMCS provides the following:

1. Centralized data that acts as a ‘single source of truth’
2. Access to Project information
3. Built-in work processes for certain administrative elements of the Work
4. Automated ball-in-court tracking for certain processes
5. Project reporting

Use this system for all submittals and official Project documentation, including:

1. Correspondence
2. Payment Requests
3. Relief Event notices and Compensation Event notices
4. Draft and executed Supplemental Agreements
5. Project Management Plans in accordance with Section 2.2 (Management Plans)
6. Meetings/Meeting Minutes/Action Items
7. Requests for Information (RFIs)
8. Submittals, including those listed in Section 3 (Design and Submittals)
9. Project Schedule submittals, including those listed in Section 2.5 (Project Schedule Requirements)
10. Audits and nonconformance reporting (NCRs)
11. Punch Lists
12. Project Reporting
14. Construction Drawing Management (including management markups, versions, and revisions)

Use the PMCS to perform Project responsibilities.

Additional requirements/guidelines of the system:

1. Use the PMCS to track and manage the Project and as an official record of all Project communication. Upload all Project-related information to the PMCS.
2. Designate a PMCS coordinator (an internal point of contact) and provide their name, phone, and e-mail to GDOT no later than seven Days after NTP 1.
3. Users of this PMCS must complete training prior to having access to the system provided by GDOT.
4. Provide high-speed internet connectivity (actual means to be agreed-on by GDOT) for GDOT to access the PMCS.
5. Provide printing capabilities (actual means to be agreed-on by GDOT) for GDOT.
6. Upload, submit, track, and review submittals via the PMCS. Where physical samples are required, review and track the submittal via the system, and transmit the sample itself to the reviewer via traditional means.
7. Use the file naming convention provided in Section 2.1.4.1 (File Naming Convention).

Upload all submittals to the PMCS. Ensure that Design Documents comply with the naming convention requirements of GDOT’s Electronic Data Guidelines (EDG). Ensure that Project documents transmitted via the system that are not specified in the EDG comply with the following electronic formats:

1. Submit documents generated in Computer Aided Design (CAD) applications (MicroStation V8 or InRoads) in Portable Document Format (PDF) generated by a PDF writer from the CAD application.
2. Scan documents that are marked up or unavailable in electronic format (drawings, sketches, correspondence, etc. generated by hand drafting methods) to Tagged Image Format version 6 [TIFF 6 (.TIF)] or latest update, Bitonal [or Black and White (or Line Art), on some scanners] (.tif) or PDF (.pdf), black and white with a resolution of 200 dpi using CCITT Group 4 (2d Fax) compression.
3. Submit documents that have been generated using PDF printer drivers (not scanned) via the system.
4. Submit electronic photographs in Joint Photographic Experts Group (JPEG) (.jpg) file format, sized at a minimum resolution of 1024 by 768 pixels.
5. Save grayscale or color photo images that are scanned in JPEG (.jpg) file format with medium to low quality compression at a resolution of 200 dpi.
6. Submit product data that is available for download from the manufacturer’s website that has been generated using PDF printer drivers (not scanned) via the system.
7. Submit all design drawings in compliance with GDOT EDG, latest revision, and all policies and guidelines on GDOT’s Design Manuals and Guides website:


Use GDOT’s PMCS for contract administration processes, including requests for information, Supplemental Agreements, Payment Requests, and DB Team official correspondence. Attend a training session(s) at GDOT’s office or other mutually agreeable location within 30 Days of the execution of the Agreement or such time as agreed to by GDOT. Contact GDOT’s project manager to schedule the training session(s).

Limited licenses will be provided by GDOT to the DB Team. Inquire with GDOT immediately after NTP 1 for the number of licenses assigned to the DB Team.
2.1.4.1 File Naming Convention

Use the file naming conventions shown in Table 2-1.

Table 2-1: File Naming Conventions

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT</td>
<td>Project Number (i.e., 0013545 - (7 digit))</td>
</tr>
<tr>
<td>Tracking No</td>
<td>PMCS-assigned process number, or user-defined tracking number</td>
</tr>
<tr>
<td>DocType</td>
<td>The 3-digit document type (e.g., LTR = Letter, TRN = Transmittal, RPT = Report)</td>
</tr>
<tr>
<td>Descr</td>
<td>Document title (short description, think Google key words, include sender/recipient acronyms if appropriate)</td>
</tr>
<tr>
<td>Date</td>
<td>YYYY-MM-DD. (ex: July 4, 1776 would be represented as 1776-07-04)</td>
</tr>
<tr>
<td>Rev</td>
<td>The 2-digit revision or version number (if applicable)</td>
</tr>
</tbody>
</table>

Use the following file naming convention on all correspondence created or issued by the Project and for filing any document:

PI#_Tracking-###__Type_Description_Date*_{Rev-##*}

Clearly identify all FINAL versions of documents and save them in the Final Deliverables folder (where applicable) as follows:

PI_Tracking Number_DocType_Desc_Date_File_Name_Final

The following are file naming guidelines:

1. Correspondence Files: Include the name of the correspondent, an indication of the subject, the date of the correspondence, and whether it is incoming or outgoing correspondence in the file name.
2. Dates: Present dates ‘back to front’, with the year first (always given as a four-digit number), followed by the month (always given as a two-digit number), and the day (always given as a two-digit number).
3. Keep file names short but meaningful: Some words add length to a file name but do not contribute towards the meaning, for example words like “the”, “a”, and “and.”
4. No spaces in file names: Use an underscore “_”, a dash “-”, heading fields, and words for ease in sorting. Use caps to distinguish words (i.e., Document_Management_Plan).
5. Numbers in file names: Include the zero for numbers 0-9 to maintain the numeric order when file names include numbers. This helps to retrieve the latest record number (i.e., 01, 02 … 99), unless it is a year or another number with more than two digits.
6. Special Characters: Do not use special characters such as @ # $ % ^ & *.,? in file names, as they can cause problems with uploading, viewing, and downloading documents over the internet.

Refer to the most current version of the Work Instruction Document GDOT-WID-001 Document Control-Document Types and Abbreviations for the master categories and documents types list of DocType referenced above in Table 2-1: File Naming Conventions.
2.1.5 Document Management
Maintain an electronic and/or hardcopy document control system to manage, store, catalog, and retrieve all Project-related documents as needed to document the DB Team work and respond to inquiries or audits for the purpose of claims. Ensure record retention complies with the requirements included in the Retention Schedules for State Government Paper and Electronic Records, State Agency Specific Schedules for GDOT, and any other applicable local, State, and federal guidelines unless otherwise directed by GDOT. Provide all documentation and content to GDOT at the time of the expiration or termination of the Agreement.

2.1.5.1 Backup of Electronic Files and Protection of Hardcopy Files
For documents retained by the DB Team, provide a secure, fireproof location with controlled access to store electronic and hardcopy backup files to protect them from loss, damage, and deterioration. For electronic files, provide off-Site backup.

2.2 Management Plans
Management plans are an essential part of effectively delivering the Project on time, on budget, and with high quality. Provide the required plans as set forth in this Section 2 and elsewhere in the DB Documents.

2.2.1 Management Plan Requirements
Submit the following management plans for GDOT review and acceptance, or as otherwise indicated:

1. Project Management Plan (PMP), pursuant to Section 2.2.2 (Project Management Plan)
2. Quality Management Plan (QMP), pursuant to Section 2.3.2 (Quality Management Plan)
3. Safety plan (for limited acceptance only), pursuant to Section 2.4.1 (Safety Plan)
4. Construction Phasing and Staging Plan, pursuant to Section 2.2.4 (Construction Phasing and Staging Plan)
5. Project Schedule Workplan, pursuant to Section 2.5.8 (Project Schedule Workplan Requirements)
6. Comprehensive Environmental Protection Plan (CEPP), pursuant to Section 4.3.3 (Comprehensive Environmental Protection Plan)
7. Hazardous Materials Management Plan (HMMP), pursuant to Section 4.3.4 (Hazardous Materials Management Plan)

2.2.2 Project Management Plan
Submit the Project Management Plan (PMP) that describes the organization, staffing, directing, and controlling the day-to-day operations necessary for effective decision-making and Project performance.

Include in the PMP the procedures and processes that ensure the dissemination of timely information to GDOT and the DB Team members to effectively manage the scope, costs, schedules, quality of, and the requirements applicable to the Project.
Also include in the PMP a Key Personnel organization chart, roles and responsibilities, approach to managing the design and construction phases, communications protocol, change/risk management process, and schedule development and updates.

### 2.2.3 Communications Support

A critical objective for all projects is to maintain the trust, support, and confidence of the media and public throughout the life of the Project. In order to meet this objective, it is critical to proactively manage messages and communications to the media.

GDOT will prepare a Public Information and Communications Plan (PICP) and will coordinate specific communications strategies and tactics for the Project with the DB Team. GDOT is responsible for all communications with the media. Direct all inquiries from media to GDOT for responses.

Designate a member of the Project team (the Public Information Contact (PIC)), who will be the point of contact to GDOT on behalf of the DB Team for public information and involvement activities throughout the Term of the Agreement. Make available the PIC or a designated DB Team member 24 hours a day, seven days a week.

The PIC shall ensure updated Project information is provided to GDOT in a timely manner.

When requested by GDOT, participate and provide necessary staff support in meetings with the public arranged and conducted by GDOT. During such meetings, be in attendance to assist GDOT in providing the public with an update on the progress the Project and discussing key issues as they emerge, or as requested by GDOT.

Be responsible for all costs associated with public information materials provided by the DB Team, including printing, costs for publishing notices and legal advertisements related to the DB Team’s services and operations.

#### 2.2.3.1 Disseminating Public Information

Assist GDOT in the development of and review of public information materials. Activities shall include:

1. When requested by GDOT, assist in the review of materials regarding Project-related subjects, for use in meetings, news releases, telephone correspondence, newsletters, e-mail, GDOT’s web-based information tool, overhead dynamic and changeable message board signs, web alerts, maps, displays, renderings, presentations, digital renderings/animations, photos, brochures, pamphlets, and any other relevant public information materials.
2. Provide weekly Traffic Interruption Request summaries for public information purposes. Provide draft press releases and detour maps of planned impacts to affected stakeholders or the traveling public. Provide any lane closure and detour requirements 72 hours in advance of closure and detour activities.
3. When requested by GDOT, provide narrative content, photos and graphic information for weekly social media posts and monthly Project e-newsletters.
4. Support the planning and implementation of special events, including a groundbreaking ceremony at commencement of construction and ribbon cutting at Project completion.
5. Supply high-quality construction progress photos and video (detail images and aerial) monthly and at major construction milestones.
6. When requested by GDOT, provide Project-related information for the GDOT Project website, including:
   a. Narrative Project updates
   b. Project maps
   c. Digital renderings and/or animations
   d. Frequently asked questions (FAQs)
   e. Current Project activities addressing design and construction
   f. Timing of road and ramp closures and openings
   g. Any utility disruptions
   h. Recommended route alternatives during closures

2.2.3.2 Photography
Provide monthly aerial photo submittals (both high-resolution and low-resolution digital files), a minimum of two photos of the entire Project, and three photos per phase at GDOT-specified locations on the Project for the various phases of construction. Take photos from the same angle, elevation, and location as previously taken, in order to show the progress of the Work from commencement of construction to Substantial Completion.

GDOT claims all data as its property. The DB Team is responsible for any photography equipment installation, including power, and maintenance of the equipment at all times. Label and catalog all photographs with the date and time taken and a brief description of the location and view.

File the electronic copies of all photographs in a single folder on the PMCS, cataloged in a logical manner as approved by GDOT.

2.2.4 Construction Phasing and Staging Plan
Prepare a Construction Phasing and Staging Plan that represents the DB Team’s approach to perform the Work. A Construction Phase is a portion of the overall Project that provides logical termini for each proposed Phase of the Work which may be comprised of multiple Stages. The Construction Phasing and Staging Plan shall align and be consistent with the DB Team’s Project Schedule including those Milestone Deadlines shown in Exhibit 9 (Milestone Deadlines). Construction Phasing and Staging Plan submittals shall be provided and reviewed in accordance with timing requirements and durations specified in Table 3-1 (Master Submittal List). Include the following in the Construction Phasing and Staging Plan:

1. Narrative that describes how and in what order each Construction Phase and Stage will be accomplished to complete the Work as specified by the DB Documents. Identify any Design Submittals associated with each Construction Phase.
2. Construction Phasing and Staging layout (scale: 1 inch = 200 feet) including lane configuration and traffic management of the Project during the different Phases and Stages of Construction.

3. Additional supporting documentation as requested by GDOT.

### 2.3 Quality Management Requirements

#### 2.3.1 Design-Build Team Responsibilities

Assume full responsibility for the quality of the Work. Ensure that the Work is delivered in accordance with DB Documents, including but not limited to the environmental and permit commitments, Released-for-Construction (RFC) plans, shop drawings, working drawings, and specifications.

Develop, implement, and update the QMP for the Term of the Agreement such that it describes the Quality Control system, policies, and procedures that ensure the Work meets the requirements of the DB Documents and provides documented evidence of same.

#### 2.3.2 Quality Management Plan

##### 2.3.2.1 Quality Management Plan Requirements

Submit for GDOT review and acceptance as follows.

The QMP shall consist of three sections:

1. The Administration portion of the QMP shall include the following:
   a. A quality policy statement that contains a complete description of the quality control and assurance policies and objectives that the DB Team will implement throughout its organization and demonstrates the DB Team senior management’s commitment to implement and continually improve the quality management system for the Work.
   b. Organizational requirements with contact information of the DB Team’s Organization as defined.
   c. Roles and responsibilities of the quality control and assurance personnel, their relationship to the production personnel, and the quality-specific responsibilities of production personnel.
   d. A plan and written procedures for quality control and assurance checks and reviews.
   e. Document control and quality records management processes and procedures.
   f. DB Team’s internal compliance auditing processes, procedures and documentation.
   g. Quality training plan of relevant staff.

2. The Design Quality Management Plan (DQMP) shall comply with the requirements set forth in the *GDOT Design-Build Manual*. The plan must also include the role of the Engineer of Record (EOR) in the DQMP and a process for independent analytical checks and written procedures for bridges and structures set forth in Section 1.3 of the *GDOT Bridge and Structures Design Manual*. 
3. The Construction Quality Management Plan (CQMP) shall comply with the requirements set forth in the GDOT Design-Build Manual including the GDOT Design-Build Construction Management SOP, and the GDOT Construction Manual. In addition:

a. Describe how the DB Team will develop and use forms and checklists to facilitate and document quality efforts, including pre-work activity checklists that depict all items required to perform the particular design, construction, and operational efforts, such as means and methods, Subcontractor involvement, materials, and inspection or testing requirements.

b. Document approach to coordinate and maintain records for all required inspections and tests that will be performed by GDOT in accordance with GDOT Design-Build Construction Management SOP and the GDOT Construction Manual.

c. Describe the methods, processes, and procedures to provide for the effective implementation and documentation of the environmental protection, training, compliance, and monitoring program.

d. Describe approach to accommodate and coordinate with GDOT provided construction engineering acceptance inspection and testing.

e. Describe approach to accommodate and coordinate with GDOT provided plant inspection(s), testing and certification of plant produced materials at existing GDOT approved plant locations, such as for precast/pre-stressed concrete, asphalt, and structural steel fabrication.

f. Describe approach to accommodate and coordinate with GDOT in the Final Acceptance and project closeout process

2.3.2.2 Quality Management Plan Updates

The DB Team or GDOT may initiate changes to the QMP (including clarifications, modifications, additions, and deletions) after it has been approved. Changes initiated by GDOT are made under GDOT’s approval authority. Any revisions to the QMP initiated by the DB Team or CQAM require prior GDOT approval.

Maintain and update the QMP to ensure it is accurate and up-to-date, including the following information:

1. The organizational chart identifying all quality management personnel, their roles, authorities, and line reporting relationships.

2. Names and descriptions of the roles and responsibilities of all quality management personnel and including which personnel have the authority to stop Work.

Revise the QMP within 14 days of GDOT or DB Team detection of a substantial or systemic problem related to the Work as a result of audits, or as directed by GDOT. Include with submissions and all updates to the QMP both a clean copy and a copy tracking all changes since the previous approval.

2.3.3 Nonconforming Work and Corrective Action

A Nonconformance Report (NCR) process shall be required to document, report and track work that fails to conform to the requirements of the DB Documents. NCRs shall be issued as a result
of such non-conformances. Examples of nonconformance’s include physical defects, test failures, incorrect or inadequate documentation or changes from the design processes, inspection or test procedures described in the Project QMP.

GDOT will implement a web-based management system that will have the capability for documenting and implementing the NCRs that includes the description of the NCR, corrective action, action to prevent, the defined roles, dispositions, tracking log, and work flow states.

The DB Team, CQAM, or GDOT can initiate an NCR. Only the initiating party may close an NCR they initiated. The Originator closes the NCR document once all requirements have been met. An NCR cannot be closed until all requirements have been met and the disposition approved by GDOT.

Provide a full description of the NCR’s nature, date, location, and any other pertinent facts, and also indicate the root cause, corrective action(s), and other action(s) to prevent its recurrence. The responsible organization shall submit a proposed disposition to GDOT of the Nonconforming Work that has been reviewed and approved by the DB Team’s Quality Assurance Manager (QAM) and EOR. If the disposition is not accepted by GDOT, the NCR will remain opened until the disposition is accepted by GDOT.

Comply with the NCR requirements set forth in the GDOT Design-Build Manual including the GDOT Design-Build Construction Management SOP. In addition, the QAM shall maintain a log of all NCRs and submit a report upon request to GDOT providing the current status.

2.3.4 Quality Terminology
Quality terminology, unless defined or modified elsewhere in the DB Documents, has the meaning defined in ISO 9001.

2.3.5 Responsibility and Authority of DB Team Quality Personnel
Comply with the requirements set forth in GDOT Standard Specifications, and GDOT Design-Build Manual including the GDOT Design-Build Construction Management SOP.

The DB Team’s Quality Assurance Manager (QAM), Design Quality Assurance Manager (DQAM) and Construction Quality Assurance Manager (CQAM) shall have the authority to suspend all or a portion of the Work because of quality-related issues.

2.3.5.1 Quality Assurance Manager
Designate a QAM whose responsibilities include developing and updating the QMP, ensuring that all Elements of Work are performed in accordance with the DB Documents, and ensuring adequate staffing and expertise is being utilized for the DB Team’s quality efforts.

The QAM shall have defined authority for ensuring the establishment and maintenance of the Management Plans and reporting to GDOT on the performance of the Management Plans.

The QAM reports directly to the person or group with overall Project management responsibilities, such as the Project Manager, an off-Site principal with binding authority for the
DB Team, or an executive oversight committee established for the Project. The QAM can be an employee of the DB Team, the DQAM, or the CQAM, but cannot be both the DQAM and CQAM.

Ensure the QAM has recent experience in the management of a quality management program of similar size and complexity as the Project.

2.3.5.2 Design Quality Assurance Manager

Designate a Design Quality Assurance Manager (DQAM) who has overall responsibility for the development, administration, and updating of the DQMP. The DQAM is responsible for verifying and validating that the procedures required by the QMP are being administered. The DQAM reports to the QAM. The DQAM can also be the EOR and the QAM but cannot be the CQAM.

In accordance with this Section 2.3.5.2 and the QMP, the DQAM certifies that all Design Documents have been subjected to all required QC checking procedures; all documentation has been completed and filed in an acceptable manner; and all design packages have been subjected to all required QC and QA prior to submittal to GDOT or prior to release.

The DQAM shall monitor to ensure the DQMP results in Design Work that is:

1. Accurate
2. Conforming to professional standards of practice
3. Compliant with all legal requirements and standards mandated by the DB Documents
4. Fit for purpose and function as specified or implied in the DB Documents

Ensure the DQAM is a Licensed Professional Engineer in the State of Georgia and has recent experience in the design of highway or bridge projects of similar size and complexity as the Project. Generally, the DQAM must have equal or greater qualifications and experience as the EOR.

2.3.5.3 Construction Quality Assurance Manager

Employ a CQAM, who has overall responsibility for development, administration, and updating of the CQMP. The CQAM is responsible for implementing, monitoring, and adjusting the processes to ensure acceptable quality. The CQAM reports directly to the QAM. The CQAM can also be the QAM but cannot be the DQAM.

The CQAM is the responsible for implementing quality planning and coordinating with GDOT’s testing and inspection requirements. Do not assign the CQAM to perform conflicting duties on the Project. The CQAM shall have the authority to stop any Work that does not meet the standards, specifications, or criteria established for the Project.

The CQAM or a designated assistant to the CQAM shall be on the Project at all times Construction Work is being performed. The CQAM shall be on the Project Site within two hours of being notified of a problem regarding the quality of any Work being performed by the DB Team, any of its Subcontractors, or agents. The CQAM or a designated assistant to the CQAM shall be on the Project Site when control points inspections by GDOT occur.

Ensure the CQAM has recent experience in construction quality management for highway or bridge projects of similar size and complexity as the Project.
2.3.5.4 Control Point Inspections

A control point is a point in time when construction has proceeded to a stage where the start of the next operation may cover or conceal a feature. At this point notify GDOT a minimum of 24 hours in advance of all required inspections.

At a minimum, notify GDOT 24 hours in advance of the actual inspection for the following activities: pre-pour conferences; pre-pour checks for footing rebar, cap rebar, column rebar, deck rebar, approach slab rebar, and barrier wall rebar; driving piles; setting beams; subgrade compaction; sub-base compaction; and compaction under the approach slabs.

The CQMP shall specify processes for monitoring the progression of Work through the tracking of control points. The process shall be designed to aid in progressing Work, verifying payments, and avoiding duplicate inspection, testing, and reporting. Provide this information on the Two-Week Detail Schedules required by Section 2.5.9 (Two-Week Detail Schedule Requirements) for all upcoming Work to be inspected.

GDOT or the DB Team may identify additional control points, subject to acceptance by GDOT, to be included at any time throughout the Project. Such additions, individually or in aggregate, shall not constitute a Compensation Event or Relief Event. GDOT will coordinate to define the procedures and criteria for additional control points.

2.3.6 Final Inspection

At the completion of constructed elements of the Work, the CQAM will jointly conduct a final inspection with GDOT and the DB Team.

During the inspection, GDOT, the CQAM, and the DB Team will jointly review Punch List items and an agreed date of correction of the items.

2.3.7 Quality Documentation

Maintain design quality records in an auditable format according to the QMP procedures. GDOT has the right to audit the quality records for compliance with the QMP and the Design-Build Documents requirements at any time. Upon completion of the Project, the quality records shall be turned over to GDOT.

At GDOT’s discretion, GDOT may perform periodic audits of the DB Team’s quality management process and related documentation.

2.4 Safety and Security

Assume sole responsibility for the safety of personnel and of the general public affected by the Project. See Section 2.4.1 (Safety Plan) regarding basic Safety Plan requirements.

Incorporate the following requirements into the Project and include them in the Safety Plan to ensure that the Project is a safe and secure environment for all individuals working on the Project. The prevention of accidents during execution of the Project shall be a primary concern of all participants and shall be the responsibility of all levels of the DB Team. Safety shall never
be sacrificed for production, but shall be considered an integral part of an efficient and quality
Project.

Safety and security procedures shall include and/or address the following:

1. Safety and health standards.
2. Roles and responsibilities of the safety/security staff.
3. Contractors (meaning prime Contractors and Subcontractors) having a Safety Director
   and an accepted safety manual (or plan) available to all employees.
4. Contractors holding periodic on-Site safety meetings.
5. Contractors conducting periodic on-Site safety inspections.
6. Contractors providing safety training for all new employees and refresher training for all
   employees.
7. Contractors conducting drug screening for all new hires.
8. Contractors establishing daily housekeeping and clean-up procedures.
9. Possible employee sharing of accident prevention savings.
10. First-aid and medical kits readily available.
11. Site security plan, possibly including such items as restricted parking near vulnerable
    structures, physical barriers (fences, barricades, etc.), coordinated efforts with local law
    enforcement officials during heightened threat levels, video surveillance, alarm systems,
    emergency telephones, etc.
12. Emergency preparedness and incident management, including roles and responsibilities,
    emergency evacuations, communications, first responder awareness training, and field
    drills.
13. Establishment of an employee identification (ID) system.
14. Level and frequency of audit and oversight safety/security reviews to be performed by
    GDOT, FHWA, independent consultants, and/or other agencies (as applicable).
15. Safety and security periodic reporting (no less than monthly).

In addition, conduct appropriate threat and vulnerability assessments and take into
consideration throughout the Project’s life cycle. The transportation elements of the Project
could have a significant impact on regional safety and security plans.

2.4.1 Safety Plan

Submit to GDOT for acceptance a comprehensive Safety Plan that is consistent with and
expands upon any preliminary safety plan submitted with the Proposal. GDOT acceptance is
limited to verifying the Safety Plan appears to be specific to the Project. In the Safety Plan, fully
describe the DB Team policies, plans, training programs, Work Site controls, and Incident
response plans to ensure the health and safety of personnel involved in the Project and the
general public affected by the Project during the Term of the Agreement.

Include in the Safety Plan procedures for immediately notifying GDOT of all Incidents arising out
of or in connection with the performance of the Work, whether on the Site or not.

Provide access to the Safety Plan and safety training to GDOT and their representatives prior to
entry to the Project Site.
2.4.2 Safety Management
Provide health and safety leadership and promote and support a safe working environment. All DB Team management and Contractors shall support the DB Team’s safety personnel in the implementation and enforcement of the Safety Plan program.

Designate a Safety Manager responsible for the development of the Safety Plan and the enforcement of safety and health policies, procedures, and work practices. The Safety Manager shall provide Project direction to maintain a safe, healthy, and secure work environment for all employees, Contractors, GDOT personnel, and the general public. The Safety Manager shall have the authority to suspend all or a portion of the Work because of public or worker safety-related issues.

Field supervisors and managers shall be responsible for monitoring their direct hire employees and Subcontractors to ensure that the Work is being performed in a manner consistent with safety policies, procedures and work practices of the DB Team. They are responsible for promoting a safe, healthful and secure work environment for workers and visitors that is free from violence, threats, harassment, and intimidation, and protects the general public from harm in connection with jobsite operations.

All workers are responsible for planning and completing all work in a safe manner by following all applicable policies, procedures, and safe work practices.

2.4.3 Worksite and Jobsite Analysis
Conduct and require of each Contractor and Subcontractor a job hazard analysis to be performed at the beginning of each shift and whenever there is a change in the task or in the environmental conditions.

2.4.4 Hazard Prevention and Personal Safety
The prevention of accidents during execution of the Project shall be a primary concern of all participants and shall be the sole responsibility of all levels of DB Team’s management. Safety shall never be sacrificed for production and shall be considered an integral part of an efficient and quality Project.

2.4.5 Training
The Safety Manager shall ensure that all personnel on the Project are provided a thorough safety orientation and periodic refreshers on the Project site safety requirements. The safety orientation shall include:

1. Roles and responsibilities
2. Hazard communications
3. Job hazard analysis
4. Reporting of incidents and accidents
5. Drug and alcohol policies
6. Driving policies
7. Disciplinary procedures
8. General health and safety requirements including proper usage of personal protective equipment (PPE)
9. General Site safety rules

**2.4.6 Incident and Emergency Management**

Include in the Safety Plan the approach for responding to Incidents and Project and Work emergencies. Identify responsibilities and procedures for responding to incidents and emergencies, including coordination and cooperation with emergency responders in the performance of their normal duties.

Incident and emergency management procedures shall include:

1. The DB Team's Incident response team availability.
2. The DB Team's Incident response team training to effectively respond to accidents, incidents and Emergencies.
3. Incident Site security, including traffic control measures and eliminating hazards to other road users.
4. Debris clearing and site assessment for damage repair.
5. Reporting and evaluation protocol and procedures prior to the dispatch of the DB Team's response crews or arrival of first responders.

**2.5 Project Schedule Requirements**

Comply with the Critical Path Method (CPM) Project Schedule requirements as defined in this Section 2.5 and in the publication *CPM in Construction Management*, latest edition, by James J. O’Brien and Fredric L. Plotnick. The DB Documents will govern in case of discrepancy between the DB Documents and *CPM in Construction Management*.

Prepare the Project Schedule as a computer-generated CPM graphic diagram that utilizes the Precedence Diagram Method (PDM) and clearly delineates the relationships between Work activities. Include and illustrate all significant Work activities that occur throughout the duration of the Agreement in sufficient detail to monitor and evaluate design and construction progress and to denote changes that occur from commencement of the Work to Final Acceptance of the Work. Indicate the duration of each activity, the order and interdependence of activities, and the sequence for accomplishing the Work. Define the timeframe for completion of the Project and achievement of all Milestone Deadlines and durations specified in Volume 1, Exhibit 9 (Milestone Deadlines). Align the Project Schedule and Construction Phasing and Staging Plan to accurately reflect the latest approach and planning for the prosecution of the Work. Ensure that all Work sequences are logical and that the Project Schedule indicates the coordinated plan for performing the Work and accurately records the Work as it is completed. GDOT and Customer Groups will rely on the Project Schedule for timing of Owner-performed Work, reviews, and oversight activities; and for coordinating with, monitoring, and evaluating the DB Team's progress.

Project Schedule refers to any of the following: Baseline Project Schedule, Revised Baseline Project Schedule, or Project Schedule Updates, as further defined in this Section 2.5 and as appropriate for the context in which they are used.
2.5.1 Baseline Project Schedule Requirements

The Baseline Project Schedule is the initial Project Schedule submittal representing the DB Team’s plan to complete performance of the Work beginning on the date of NTP 1 to Final Acceptance of the Work. In the Baseline Project Schedule, show the plan to complete the Project within the Milestone Deadlines and durations specified in Exhibit 9 (Milestone Deadlines). Do not show any Work activities with progress (no actual dates) in the Baseline Project Schedule. Comply with the following Baseline Project Schedule requirements:

1. Set the data date on or before the date of NTP 1 using a beginning of day convention.
2. Utilize a Work Breakdown Structure (WBS) and activity codes to plan, analyze, monitor, and organize all Work activities shown in the Project Schedule. Coordinate with GDOT prior to submittal of the Baseline Project Schedule to ensure an adequate WBS and activity codes have been developed and assigned to each activity to the satisfaction of GDOT. GDOT reserves the right to request additional WBS levels and activity codes be added and assigned throughout the duration of the Agreement. Comply with the following Project Schedule organization requirements:

   a. Ensure activities are mapped to, organized by, and rolled-up to a deliverable-based, hierarchal WBS. Utilize the first level of the WBS as the Project itself. Include discrete nodes at the second level of the WBS for the following: Project Management, Environmental and Permitting, Design, Right of Way, Utilities, Procurement, Construction, and Close-out. Reflect the DB Team’s overall approach to the planning, scheduling, and execution of the Work in the organization and breakdown of the WBS. Include WBS levels for all Project-specific locations/alignments, Work Elements/Work packages, phasing, staging, sequencing, design, and deliverable requirements. Identify each design package required for construction phasing and sequencing and identify each stage of the design in the design phase WBS. Align the construction phase WBS with the DB Team’s Construction Phasing and Staging Plan. Remain consistent with the order and hierarchy number of each specific level of the WBS utilized. The DB Team may further develop and detail the WBS; however, any modifications cannot alter or interfere with these WBS requirements or the ability to summarize to the required WBS levels.

   b. Include the following activity codes assigned to each activity: Work Element (each individual bridge, retaining wall, noise wall, drainage run, etc.), location/alignment (each mainline, connector-distributor, ramp, and crossing street and may be further defined by geometric limits such as sections for station-to-station, inside/outside, etc.), Work type (environmental, roadway, drainage, structures (bridges, retaining walls, noise walls), landscaping, etc.), responsibility (party responsible for each activity with individual Subcontractors identified), and construction phase/stage as specified by the DB Documents and pertinent to the DB Team’s Construction Phasing and Staging Plan, approach, means and methods. Use only Project-level (not global) activity codes. Include the PI number in the description of all activity code definitions (i.e. PI######_Work Type; PI######_Responsibility; etc.).
3. Use standard and consistent activity identification numbers and activity textual descriptions (aka activity names) in a manner acceptable to GDOT. Comply with the following:

   a. Use a coding structure for activity identification numbers with no spaces, hyphens, symbols, or special characters. Do not modify, reassign, or reuse activity identification numbers once assigned to an activity.

   b. Ensure each activity is uniquely named and consists of a verb, noun, and location in the activity description (aka activity name) and is consistent with its WBS and activity code assignments. Include identifiable physical locations within definable geometric limits and Work features in each activity description such as location/alignment, station-to-station sectioning, and specific retaining wall or bridge, bent and span numbers, and drainage structure numbers. For design and preconstruction activities, include identifiable feature of Work, such as specific design package, submittal, ROW parcel, permit type, or procurement item in the activity description.

4. Fully detail all Work and activities necessary to complete the Work as specified by the DB Documents and pertinent to the DB Team’s approach, means, and methods. Break the Work into discrete activities associated with only one operation and into sufficient detail to readily identify, evaluate, and measure progress. Include activity sets for all pre-construction, design, construction, and post-construction Work, including:

   a. NTP 1, NTP 2, NTP 3 start milestones and a Completion Date finish milestone for each Milestone Deadline specified in Exhibit 9 (Milestone Deadlines). If any durations are specified in Exhibit 9, include summary/level of effort activities for each with appropriate logic ties to the detailed Work activities.

   b. Design-phase Work and submittals shown in Table 3-1 (Master Submittal List). Include distinct activities for the development, submittal, review, and approval of each submittal. Ensure the Staged Design Submittals, Construction Phasing and Staging Plan, and Project Schedule are aligned and consistent.

   c. Environmental Document and Permit Acquisition Work including Work shown in Table 4-2 (GDOT-Led Environmental Preparation and Approval) and Table 4-3 (DB Team-Led Environmental Permit Approval). Include distinct activities for the development, submittal, review, and approval/issuance of each.

   d. Right of Way (whether State Proposed/State Acquired or DB Team Proposed/DB Team Acquired), Right of Entry, and easements Work. Include distinct activities for the appraisals, negotiations, settlements or agreements, and acquisitions of each specific parcel.

   e. Utilities and Utility Adjustment Work, as applicable and in accordance with the DB Documents. Include distinct activities for each adjustment and relocation.

   f. Owner or other third-party scopes of Work and for interfaces with other projects, localities, municipalities, and other Governmental Entities.

   g. Shop drawings and long-lead material and equipment items. Include distinct activities for preparation, submittal, review, and approval of all shop drawings and separate activities for fabrication and delivery.

   h. Procurement of all major Subcontractors and trade packaging.
i. Project start-up, site setup and mobilization.

j. Permanent Construction Work, demolition of existing/selective demo, and major temporary work activities. Sufficient detail for Construction Work may be achieved as follows:

   i. For bridge structures Work, indicate each element of individual bents (piles, footings, columns, caps, with separate activities for formwork, rebar, concrete placements, strip and cure times); each element of Work in individual spans (girders, strip seal joints, decks with separate activities for formwork, rebar, concrete placements, strip and cure times); individual approach slabs, railings, and miscellaneous other bridge Work.

   ii. For cast-in-place retaining wall structure Work, indicate each broken-out by excavation, formwork, rebar, concrete placements, strip and cure times, and back-fill; and for mechanically-stabilized earth (MSE) walls, indicate each broken-out by excavation, leveling pad, lifts, settlement periods, wall caps, and related Work.

   iii. For sound wall structures Work, indicate each broken-out by excavation, post piles/footings, panel foundations, posts, panels, and related Work.

   iv. For road Work, indicate individual runs of pipe and drainage structures; individual box culverts; individual detour roads; clearing and grubbing, embankment, excavation, base, paving layers, signing, striping, guardrail, water, sewer, roadway electrical and lighting; and other miscellaneous elements within definable geometric limits such as location/alignment and station-to-station sectioning.

   v. For ITS and tolling, include structure foundations, structure supports, conduits, cabinets, power conductors, fiber optic, ITS equipment, cable splicing, testing, and start-up, and other related Work. Include activities for replacement Video Detection System (VDS) and new traffic detection installation, as applicable and in accordance with the DB Documents.

   k. Submittal and execution of all Punchlist and Project Closeout Work.

5. Use durations in whole day increments with a maximum duration of 20 Working Days or 30 Calendar Days, and not less than one day, except for long-lead procurement activities or as otherwise stipulated in the DB Documents or unless approved prior by GDOT. Ensure activity durations represent the anticipated work effort to complete the task, reflect planned production rates, and do not conflict with any time requirement in the DB Documents.

6. Include appropriate logic ties necessary to complete the Work as specified by the DB Documents and pertinent to the DB Team’s approach, means and methods. This includes sufficient hard logic (aka construction logic) and sufficient preferential logic (aka trade flow or soft logic). Include preferential logic ties that dictate the planned flow of Work on an early date basis, as well as sufficient logic ties to ensure the late date basis.
represents a reasonable plan, production rates, and resource constraints that can be met. Explicitly identify resource constraints using activity relationships and a detailed description in the Project Schedule Narrative. Comply with the following Project Schedule logic requirements:

a. Ensure all activities, except for NTP 1 start milestone and each Milestone Deadline finish milestone, have a minimum of one predecessor activity and one successor activity. Ensure each activity has at least one “start” predecessor (i.e. FS0d, SS0d) and one “finish” successor (i.e. FS0d, FF0d).

b. Use finish-to-start (FS) relationship types with no leads or lags whenever possible. Finish-to-finish (FF) or start-to-start (SS) relationship types shall generally be avoided. Do not use start-to-finish (SF) relationship types.

c. Identify any lag proposed and provide an explanation in the Project Schedule Narrative for the purpose of the lag. All lags will be reviewed for approval by GDOT as part of the Baseline Project Schedule review. Use of lags with a negative value are not allowed. Do not use relationship lags when the creation of an activity will perform the same function, including:

   i. SS lags where lag is greater than predecessor’s original duration.
   ii. FF lags where lag is greater than successor’s original duration.
   iii. FS lags greater than zero days.

7. Constrain start milestone activity for NTP 1 with a “Start On or After” primary constraint date to reflect executed NTP 1 date using beginning of day convention.

8. Show Project Schedule float calculations based on each Milestone Deadline specified in Exhibit 9 (Milestone Deadlines) utilizing the following convention:

   a. Include a finish milestone with activity name “Substantial Completion Date”. This activity shall have as predecessors all the activities that must be completed prior to the Substantial Completion Milestone Deadline. Assign any suitable successors to the Substantial Completion Milestone Deadline to this activity. Constrain this activity with an activity-level “Finish On or Before” primary constraint date reflecting the Substantial Completion Milestone Deadline shown as a Calendar Day using end of day convention. Do not utilize a secondary constraint on this activity. Utilize this same convention for all other Interim Milestone Deadlines specified in Exhibit 9 (Milestone Deadlines).

   b. Include a finish milestone with activity name “Final Acceptance Completion Date”. This activity shall have as predecessors all the activities that must be completed prior to the Final Acceptance Milestone Deadline. Do not utilize a primary constraint or secondary constraint on this activity. Utilize the Project-level “Must Finish By” date to reflect the Final Acceptance Milestone Deadline shown as a Calendar Day using end of day convention.

   c. Do not otherwise sequester float calculations. Date constraints, other than those required by the DB Documents, will not be allowed unless approved in writing by GDOT. Identify any proposed constraints and provide an explanation for their
9. Utilize the Gregorian calendar and comply with the following requirements:
   a. Use only Project-level calendars. Do not use or reference global level calendars. Do not use “Inherit holidays and exceptions from Global Calendar” option.
   b. Identify work days and non-work days and include identifiable PI# in the description of each calendar (i.e. “PI######_5-day work week”). Maintain the same hourly work/non-work times and same hours/day in each calendar utilized.
   c. Satisfactorily account for anticipated adverse weather. Use calendar non-work days clearly defined for anticipated adverse weather or other equally effective means as approved by GDOT. With submittal of the Baseline Project Schedule, provide in writing the planned methodology to account for anticipated adverse weather.
   d. Show maintenance of traffic/closure or restriction periods, self-imposed and regulatory non-Work periods for environmental or other restrictions, all non-Work periods, or any other time restrictions prescribed by the DB Documents. The DB Team may constrain Work scheduling in these periods by using special calendars or other equally effective means. Clearly identify such starts or completions imposed on the Project Schedule and include a detailed description of each in the Project Schedule Narrative.
   e. Unless otherwise approved in writing by GDOT and for the purposes of the Project Schedule and conversion of hours into days by the scheduling software, a standard working day consists of eight work hours per day from 8:00 AM to 5:00 PM with a 1-hour non-work lunch at 12:00 PM - 1:00 PM. Remain consistent with these start and finish times in each calendar (5 day work week, 6-day work week, 7-day work week, etc.).

### 2.5.2 Project Schedule Update Requirements

Use the approved Baseline Project Schedule as the basis for subsequent Project Schedule Updates. Update monthly the previously approved or accepted Project Schedule to accurately reflect the current status of the Project. Utilize Project Schedule Updates for the primary purposes of reporting current progress of the Work and the forecasted plan to complete the Project in relation to the approved Baseline Project Schedule. Project Schedule Updates may include minor changes and adjustments to the Project Schedule (such as splitting activity sets and adjusting relationships to account for out-of-sequence progress). Identify all changes and the justification for each in the accompanying Project Schedule Narrative. All changes will be reviewed for acceptance by GDOT as part of the Project Schedule Update review. Comply with the following Project Schedule Update requirements:

1. Set the data date to the day immediately following close of the update period, so that if the period closes on the 31st at 11:59 p.m., set the data date to the 1st of the next month using a beginning of day convention.
2. Contemporaneously and accurately memorialize actual progress (not calculated progress), including actual start, actual finish, and physical percent complete (manually input) for activities progressed as of the data date. Limit the input of actual dates to the...
active update period. Do not show actual dates beyond the data date. Do not revise previously statused start and finish dates without prior written acceptance from GDOT.

3. Recalculate the Project Schedule utilizing the retained logic method. Revise, adjust, and recalculate Project Schedules to represent the current plan to complete the Work with no out-of-sequence progress activities.

4. Forecast remaining dates for all in-progress activities utilizing accurate physical percent complete and updated remaining duration. Do not use expected finish dates. Reforecast early dates and recalculate late dates for all remaining activities.

5. Do not use default mechanisms which may be included in the scheduling software system to automatically update the Project Schedule.

6. For interruptions after an activity has begun, add a separate activity so that the original activity is split into two activities. Mark the original activity as completed. Use a FS relationship between the original activity and the new activity and retain all existing successor relationships.

7. Do not delete any activities after the Baseline Project Schedule is approved. If an activity’s scope is eliminated, revise the description to include “- scope deleted,” reduce the duration to zero days, remove logic, and contemporaneously actualize dates to the day immediately preceding the data date.

8. Maintain the unique activity identification number, name, and scope of each activity. Activity identification numbers can only be used once. Do not modify or reassign activity identification numbers. Do not revise activity descriptions to represent different scope than originally intended.

9. If additional activities are incorporated to supplement or replace the scope of a single activity, the existing activity must maintain its activity identification number and be converted to a level of effort summary activity that spans the newly added detailed activities.

10. Contemporaneously incorporate changes to the Work upon authorization of a Supplemental Agreement by GDOT. Include the Supplemental Agreement number in the activity description or as approved by GDOT and describe the new activity scope in the Project Schedule Narrative for the reporting period in which the Supplemental Agreement was executed. Depending on the nature of such modifications, a Revised Baseline Project Schedule submittal may be required at the sole discretion of GDOT.

11. Depending on the nature of proposed changes and at the sole discretion of GDOT, a Project Schedule Update may be returned to the DB Team to be resubmitted for review and approval as a Revised Baseline Project Schedule.

12. Submit the final Project Schedule Update (aka As-Built Schedule) at Final Acceptance or as directed by GDOT. Show actual start and actual finish dates for all activities, reflective of those dates shown in the DB Team’s QA/QC documentation.

### 2.5.3 Revised Baseline Project Schedule Requirements

Major changes to the Project Schedule must be submitted for GDOT review and approval as part of a Revised Baseline Project Schedule submittal. Comply with all applicable requirements specified for a Baseline Project Schedule and a Project Schedule Update. Once approved by
GDOT, use the Revised Baseline Project Schedule as the basis for subsequent Project Schedule Updates.

From time to time, GDOT may direct or the DB Team may request submittal of a Revised Baseline Project Schedule, subject to GDOT approval. GDOT direction or approval of the submittal of a Revised Baseline Project Schedule does not constitute a Relief Event or Compensation Event. GDOT may direct the DB Team to develop and submit a Revised Baseline Project Schedule when any of the following occur:

1. Project scope has changed substantially due to Supplemental Agreement(s) or accepted Relief Events by GDOT, whether individual or in aggregate.
2. Within 30 days of completing Final Design or once 30% completion of the Construction Work is achieved, whichever occurs sooner.
3. The overall approach to Work, sequencing, and timing are fundamentally changed. This includes revisions to the Construction Phasing and Staging Plan, wholesale resequencing of the Work, and substantial changes to the DB Team’s means, methods, crew planning and staffing, field conditions, resource constraints, production rates, activity sets, original durations, calendar assignments, calendar work/non-work periods (work days or work hours/day), or constraints.
4. The Project Schedule forecasts a Completion Date that is more than 30 days later than the Milestone Deadline.
5. If GDOT, in its sole discretion, determines that the current plan, as communicated by the Project Schedule, is insufficient or unreasonable, or that the DB Team’s execution of the current plan is deemed to be insufficient and unlikely to achieve the successful completion of the Project within the Milestone Deadlines.

2.5.4 **Time Impact Analysis (TIA) Requirements**

When asserting that a Relief Event has occurred, provide supporting evidence including a Time Impact Analysis (TIA). Use a copy of the then-current and latest accepted Project Schedule Update at the time the asserted event occurred and submit a fragmentary network (“fragnet”) with supporting reports depicting the time impact basis of the request with the affected Project areas highlighted in the impacted Project Schedule. The submittal contents and process to submit, review, and approve a TIA request shall meet those specified for a Revised Baseline Project Schedule. Upon issuance of a Supplemental Agreement, or as otherwise directed in writing by GDOT, the impacted Project Schedule will be considered a Revised Baseline Project Schedule and will be used as the basis for subsequent Project Schedule Updates.

2.5.5 **Project Schedule Narrative Requirements**

With each Project Schedule submittal, include a separate Project Schedule Narrative meeting the requirements specified throughout this Section 2.5 (Project Schedule Requirements) and Section 2.6 (Payment Requests and Payment) and as further detailed below. Update and correlate the Project Schedule Narrative with each Project Schedule submittal.

For Baseline Project Schedule and Revised Baseline Project Schedule submittals, include the following, separated into sections:
1. An explanation of the overall plan to complete the Project, including where the Work will begin and how the Work and crews will progress through the Project. Identify all resource constraints including list of crews/crew types and equipment.

2. If Project Schedule recovery efforts are required as part of a Revised Baseline Project Schedule or at the sole discretion of GDOT, the DB Team shall identify the composition of, and production rate for, each crew type.

3. An explanation of the use and application of the workdays per week, number of shifts per day, number of hours per shift, holidays observed and how the Project Schedule accommodates anticipated weather days for each month. Submit a list of the calendars used and a definition of their type.

4. A description of the Work to be completed each season (for multi-year projects).

5. A description of the critical path(s) and near-critical path(s).

6. An explanation of the use of any proposed constraints, including the reason and purpose for each constraint.

7. Clearly identify any non-work periods, starts or completions imposed on the Project Schedule.

8. Identify any lag proposed and provide an explanation for the purpose of the lag.

9. A statement describing the status of any required permits.

10. Reference the Construction Phasing and Staging Plan with which the Project Schedule submittal aligns. Clearly describe any discrepancies or deviations between the Project Schedule and the Construction Phasing and Staging Plan and state the reasons and justification for each (if none; so state).

11. Include a detailed description of how the Project Schedule incorporates Work authorized by Supplemental Agreement, accepted Relief Events, or asserted Relief Events provided as part of a TIA. A discussion of delays in the Project Schedule Narrative does not constitute notice in accordance with Volume 1, Articles 13 (GDOT Changes; DB Team Changes; Directive Letters) and 14 (Relief Events; Compensation Events).

For Project Schedule Update submittals, include the following, separated into sections:

1. A description of the work performed since the last approved or accepted Project Schedule. If the Work performed does not match the Work scheduled to be performed, include a detailed description of why there is a discrepancy between the activities that should have been completed or progressed as indicated in the latest approved or accepted Project Schedule submittal.

2. A description of the status of the forecasted Completion Dates relative to each required Milestone Deadline. Address any changes since the latest approved or accepted Project Schedule submittal and provide an explanation if any forecasted Completion Dates are projected to occur after the required Milestone Deadlines.

3. A description of any problems encountered or anticipated since the latest approved or accepted Project Schedule submittal, inclusive of any unusual labor, shift, equipment or material conditions or restrictions encountered.

4. A description stating the dates which the DB Team could not work on activities identified on the critical path due to weather. If there were no weather delays experienced during the previous month the Project Schedule Narrative should state as such. Any such
statements regarding weather delays does not constitute notice in accordance with Volume 1, Articles 13 (GDOT Changes; DB Team Changes; Directive Letters) and 14 (Relief Events; Compensation Events).

5. A detailed description of all proposed changes to the latest approved or accepted Project Schedule with justification for changes to any of the following: critical path, activity sets (added, deleted, or modified), original durations, activity relationships (logic), calendar assignments, calendar work/non-work periods (work days or work hours/day), constraints, WBS, activity coding, software settings, or Work authorized by Supplemental Agreement. Identify any changes to the work crews (number and size of each crew), shifts, hours worked, days worked, or major equipment changes.

6. A description of the critical path(s) and near-critical path(s).

7. A statement describing the status of any required permits.

8. A description of any risks or issues that may potentially impact the Project Schedule. Identification does not constitute nor satisfy the notice requirements of Relief Schedule under the DBA.

9. A statement that identifies any delays. The statement should include identification of the delayed activity, the type of delay, the cause of the delay, the effect of the delay on other activities and Completion Dates and identification of actions required to mitigate the delay. A discussion of delays in the Project Schedule Narrative does not constitute notice in accordance with Volume 1, Articles 13 (GDOT Changes; DB Team Changes; Directive Letters) and 14 (Relief Events; Compensation Events).

2.5.6 Project Schedule Submittal Requirements

Project Schedule submittals shall be provided and reviewed in accordance with timing requirements and durations specified in Table 3-1 (Master Submittal List). Include the following with all Project Schedule submittals:

1. Electronic Primavera P6 file format (XER or equivalent P6 Export file type subject to prior approval by GDOT) of the current Project Schedule submittal. Do not submit multiple P6 Projects in a singular XER file.

2. A full schedule plot (PDF format) in a layout acceptable to GDOT.

3. A critical path schedule plot (PDF format) in a layout acceptable to GDOT.

4. A 5-week look-ahead schedule plot filtered for activities with total float less than or equal to 30 days (PDF format) in a layout acceptable to GDOT.

5. A Project Schedule Narrative (PDF or MS Word file format) meeting the requirements of this Section 2.5 (Project Schedule Requirements).

GDOT shall review Baseline Project Schedule submittals and Revised Baseline Project Schedule submittals and return them as approved, approved with comments, or returned to be revised and resubmitted. Project Schedule Updates will be accepted, accepted with comments, or returned to be revised and resubmitted.

GDOT’s approval or acceptance is for conformance to the requirements of the DB Documents and Good Industry Practice and represents that the submittal appears to meet the requirements of the DB Documents and appears to provide a valid Work plan for the Project, but in no way
constitutes GDOT’s approval or acceptance of the sufficiency of DB Team’s planning, sequencing, means and methods and does not relieve the DB Team of sole responsibility for meeting DB Document requirements and Milestone Deadlines.

Approval or acceptance does not expressly or by implication warrant, acknowledge, or admit the reasonableness of the logic, durations, resourcing, or any other element. If the DB Team fails to define any element of Work, activity, or logic and GDOT’s review does not detect this omission or error, the DB Team remains responsible for correcting the error or omission without qualification. GDOT approval does not waive any DB Document requirement unless such approval includes specific, written statement of waiver of a requirement by GDOT subsequent to a written request for such waiver by the DB Team.

If the DB Team fails to submit a Project Schedule or if GDOT deems that any Project Schedule fails to meet the requirements of this Section 2.5 (Project Schedule Requirements) or the DB Documents, GDOT may withhold a portion of a Payment Request until the Project Schedule containing the required information is submitted and approved or accepted by GDOT, as applicable. Unapproved or unaccepted Project Schedules and associated data shall not be considered relevant or applicable for any purposes during or after completion of the Project and shall not be binding on GDOT.

### 2.5.7 Project Schedule Software Requirements

Provide Project Schedules in electronic Primavera P6 file format (XER or equivalent P6 Export file type subject to prior approval by GDOT) compatible with software version utilized by GDOT.

Coordinate with GDOT to ensure all Project-related Primavera P6 data is properly imported with each Project Schedule submittal. This includes which import configuration options will be utilized. Unless otherwise agreed to in writing by GDOT, the following data types will not be imported or considered for purposes of review, approval or acceptance by GDOT: Resource Codes, Resource Code Values, Shift Names, Work Products and Documents, Relationships to External Projects, Project Funding Assignments, Issues, Project Code Assignments, Thresholds, Activity Step Templates/Activity Steps, Timesheets, Risks, High Level Planning Assignments and Project Budget data (Budget Log, Spending Plans, Funding Sources, and Current Budget), User Defined Fields (UDF’s), Notebook Topics/Notebook Entries, Activity Discussion and Feedback tabs. Comply with the following software settings and defaults.

#### 2.5.7.1 Software Admin Settings

Apply the following Primavera P6 software Admin Settings:

1. Use “Engineering and Construction” as the Industry to use for terminology and default calculation settings in the P6 Professional module.
2. Use “USD – Dollar” as Currency Type.
3. Define Time Periods as 8.0 Hours/Day. Check “Use assigned calendar to specify the number of work hours for each time period.”
4. Use “Activity % Complete” as the Earned Value Technique for computing performance percent complete.
5. Use “ETC = Remaining Cost for activity” as the Technique for computing estimate to complete (ETC).
6. Use “At Completion values with Current Dates” or “Planned values with Current Dates” when calculating earned value. Do not use “Planned Values with Planned Dates” option.

### 2.5.7.2 Project Settings and Defaults

Apply the following Project settings and defaults:

1. Clearly identify each Project Schedule submittal with a unique Project ID and Project Name prior to submission (prior to starting the export process).
2. Set the Project status to “Active.”
3. Use “.” as the character for separating code fields for the WBS tree.
4. Use “July” as the fiscal year begins on the 1st day of setting.
5. Use “Project baseline” as the baseline for earned value calculations.
6. Use “Longest Path” to define critical activities.
7. Set Default Price/Unit for activities without resource or role price/units to “$0.00/h.”
8. Uncheck “Activity percent complete based on activity steps.”
9. Check “Link Budget and At Completion for not started activities.”
10. Select “Reset Remaining Duration and Units to Original.”
11. Set the default calendar to the most common Project-specific production calendar. Calendar assignments may be changed at the activity level, as applicable.

### 2.5.7.3 Activity Settings and Defaults

Apply and ensure all Project Schedule activities conform to the following:

1. Use “Fixed Duration and Units” as Duration Type for all Task Dependent and Level of Effort activities; use “Fixed Duration and Units/Time” for Milestones.
2. Use “Physical” as Percent Complete Type for all activities.
3. Use “Task Dependent” as Activity Type for all activities except for applicable Milestones and Level of Effort activities. Do not use Resource Dependent or WBS Summary Activity Types.

### 2.5.7.4 WBS Default Settings

Apply the following WBS Default Settings:

1. Set the status for all WBS levels with activities assigned to “Active.”
2. Select “Activity percent complete” as the technique for computing performance percent complete. Uncheck “Use resource curves / future period buckets.”
3. Select “ETC = remaining cost for activity” as the technique for computing Estimate to Complete (ETC).

### 2.5.7.5 Software Schedule Options

Under Primavera P6 Tools, Schedule, apply the following Options:

1. Check “Ignore relationships to and from other projects.”
2. Uncheck “Make open-ended activities critical.”
3. Uncheck “Use Expected Finish Dates.”
4. Uncheck “Schedule automatically when a change affects dates.”
5. Uncheck “Level resources during scheduling.”
6. Uncheck “Recalculate assignment costs after scheduling.”
7. When scheduling progressed activities use “Retained Logic.”
8. Calculate start-to-start lag from “Early Start.”
9. Define critical activities as “Longest Path.”
10. Calculate float based on finish date of “Each project.”
11. Compute Total Float as “Finish Float = Late Finish - Early Finish.”
12. Calendar for scheduling Relationship Lag use “Predecessor Activity Calendar” or specify with the Baseline Project Schedule if lags are to be calculated on predecessor, successor, or 24-hour calendar, and do not change in future Project Schedule submittals.

2.5.8 Project Schedule Workplan Requirements

Reserved.

2.5.9 Two-Week Detail Schedule Requirements

Two-Week Detail Schedule submittals shall be provided and reviewed in accordance with timing requirements and durations specified in Table 3-1. Ensure Two-Week Detail Schedules:

1. Include a rolling period of at least two weeks ahead for planned activities and one week back (recording actual dates and durations for Work performed).
2. Are based on the current Project Schedule Update and provide a more detailed breakdown of the activities for the purpose of coordination of the Work, oversight planning, verification of Work completed, and materials inspection and testing.
3. Align accurately with and are derived from the current Project Schedule with any deviations clearly noted and explained.
4. Reference the applicable Project Schedule activity identification numbers and define subsequent specific daily operations for all Work activities scheduled to be performed during the look-ahead period.

2.5.10 Price-Loaded Project Schedule Requirements

The DB Team may elect to price-load the Project Schedule with the approved Schedule of Values (SOV) upon obtaining written GDOT approval prior to submittal of the Baseline Project Schedule. Excepting allowable Payment Requests based on the Proposal SOV described in Section 2.6 (Payment Requests and Payment), the price-loaded Project Schedule may be used as the mechanism for determining and verifying the DB Team’s progress of the Work on a percent-complete basis with associated dollar amounts identified for each Payment Activity shown in the Project Schedule to justify monthly Payment Requests. Should the DB Team elect this option, the following requirements shall be met:

1. Devise a hierarchical account structure (utilize Primavera P6 Cost Accounts or approved equivalent) in the Project Schedule representing the Payment Activities shown in the approved SOV. The SOV and Payment Activities shall meet requirements described in
Section 2.6 (Payment Requests and Payment). Apportion the approved Scheduled Value of each Payment Activity across Project Schedule activities (utilize Primavera P6 Project Expenses or approved equivalent) that, in aggregate, represent the associated Work. The first level of the account structure shall be the Project itself with all other utilized accounts assigned as subsidiaries. Each Payment Activity account shall include one or more price-loaded Project Schedule activities capable of being grouped by the individual Payment Activity account to which they are assigned. The price-loading method must be capable of displaying, for each Project Schedule activity and Payment Activity account, the following populated fields:

a. Unique and consistently labeled Payment Activity identification number.

b. Unique and consistently labeled Payment Activity description.

c. Scheduled Value (aka budgeted amount on price basis; include quantity, unit of measure, and unit price if applicable).

d. Cumulative Total Completed to Date (on price and percent-complete basis of Scheduled Value).

e. Balance to Finish (aka Remaining amount on price-basis).

f. At Completion Value (aka the sum of Cumulative Total Completed to Date and Balance to Finish on price-basis).

2. Comply with the following price-loading requirements:

a. Price-load the Baseline Project Schedule with the approved SOV; and each Revised Baseline Project Schedule with the latest approved SOV.

b. Price-loading shall be applied to detailed, task dependent activities. Price-loading summary-type or level of effort activities in lieu of the detailed Pre-Construction Work, Design Work and Construction Work activities is not permitted.

c. Project Schedule activities cannot be front-loaded. Distribute prices as linear and uniform over each activity duration or upon 100% completion of the Project Schedule activity, as applicable.

d. No Project Schedule activity may be assigned a value greater than $250,000 or 1% of the total Contract Sum, whichever is less, except for the following: long-lead procurement activities; as otherwise stipulated in the Agreement; or unless approved by GDOT. Provide justification for any deviations in the accompanying Project Schedule Narrative, which shall be subject to GDOT approval.

e. The Scheduled Value (or portion of Scheduled Value) assigned to each Project Schedule activity shall accurately represent the value of the Element of the Work identified. Provide further detail to accurately represent the value of the Work identified in the Project Schedule activity when directed in writing by GDOT.

f. The sum total of Scheduled Values for Project Schedule activities assigned to a particular Payment Activity account shall match and roll-up to the associated Payment Activity value shown on the approved SOV.

g. Once the price-loaded Baseline Project Schedule is approved, no changes shall be made to the Payment Activity account structure, Project Schedule activity assignments and individual Scheduled Value (budgeted amount) assignments without prior GDOT approval. GDOT intends for such modifications to occur rarely.
Depending on the nature of proposed changes and at the sole discretion of GDOT, such changes may be returned to the DB Team to be resubmitted for review and approval as a Revised Baseline Project Schedule.

h. Do not show any Payment Activity progress in the price-loaded Baseline Project Schedule submittal. Cumulative Total Completed to Date should be equal to $0.00 and Balance to Finish values should equal the Scheduled Value. For all other price-loaded Project Schedule submittals, the sum total Cumulative Total Completed to Date values and Balance to Finish values for Project Schedule activities assigned to a particular Payment Activity account shall match and roll-up to the associated Payment Activity values shown on the then-current SOV Update. At Completion Values are expected to match the corresponding approved Scheduled Values, with any deviations clearly noted in the accompanying Project Schedule Narrative.

i. Supplemental Agreements that include changes to the SOV will be incorporated into the price-loaded Project Schedule upon approval of the revised SOV. Depending on the nature and magnitude of changes and at the sole discretion of GDOT, such changes may require the DB Team to submit a Revised Baseline Project Schedule for review and approval.

3. Include the following with all Payment Requests and all price-loaded Project Schedule submittals:

a. Payment Activity Assignment Data: a product of the software creating the price-loaded Project Schedule; shall be a tabular layout or report (in PDF format) grouped by Payment Activity accounts with summary band info displayed and rolled-down to display all assigned price-loaded Project Schedule activities. Display the Payment Activity account, activity ID, activity name, activity status, budgeted unit, price/unit, budgeted cost, percent complete, actual cost, remaining cost, at completion cost, and distribution (accrual) type.

b. Incremental and Cumulative S-Curve Data: a product of the software creating the price-loaded Project Schedule; shall be a tabulation of monthly incremental and cumulative price-loaded data (in MS Excel format) including budgeted, actual, remaining, and at completion values on an early-date and late-date basis.

2.6 Payment Requests and Payment

2.6.1 Schedule of Values (SOV)
Schedule of Values (SOV) means a detailed price breakdown structure of all Elements of the Work listed as discrete Payment Activities organized in a logical and hierarchal manner. The SOV shall be used as the mechanism for determining progress payments on a percent-complete basis with associated dollar amounts identified for each Payment Activity to justify monthly Payment Requests. Unless otherwise described in this Section 2.6 (Payment Requests and Payment), no payments will be made until the SOV is approved. Supplemental Agreements that include changes to the Contract Sum will be incorporated into the SOV.

Prepare the SOV and apportion the Contract Sum across Payment Activities such that the sum of the prices of all Payment Activities equals the Contract Sum. Payment Activities shall meet requirements described in Section 2.6.1.1 (Payment Activities).
Include for each Payment Activity shown on the SOV the following populated fields:

1. Unique and consistently labeled Payment Activity identification number
2. Unique and consistently labeled Payment Activity description
3. Scheduled Value (aka budgeted amount on price basis; include quantity, unit of measure, and unit price if applicable)
4. Previous amount paid to date (on price and percent-complete basis of Scheduled Value)
5. Amount requested for current period (on price and percent-complete basis of Scheduled Value)
6. Cumulative Total Completed to Date (on price and percent-complete basis of Scheduled Value)
7. Balance to Finish (aka Remaining amount on price and percent-complete basis of Scheduled Value)

SOV refers to any of the following: SOV or SOV Updates, as further defined in this Section 2.6 and as appropriate for the context in which they are used.

### 2.6.1.1 Payment Activities

Payment Activities are Elements of the Work for which payment on account of the Contract Sum shall be due, subject to the terms of this Agreement. Include subtotals for logical groupings of Payment Activities. Unless otherwise approved in writing by GDOT, structure the SOV to roll-up to those Payment Activities and associated Scheduled Values included in Volume 1, Exhibit 5 (Proposal SOV).

Further subdivide the Work into sufficiently detailed Payment Activities to the satisfaction of GDOT. Payment Activities shown on the SOV must be reasonably associated with and supported by the activities represented by the Project Schedule. The DB Team may elect to price-load the Project Schedule with the SOV upon prior GDOT approval. Upon GDOT request, provide further detail to accurately represent the value of the Work for the Payment Activities comprising the SOV prior to submittal of the first Payment Request or when directed by GDOT. Payment Activities shown on the SOV shall meet the following criteria:

1. Payment Activities cannot be front-loaded.
2. No Payment Activity shall be greater than $250,000 or 1% of the total Contract Sum without prior GDOT approval.
3. Once approved, Payment Activities cannot be modified in identification number, description or Scheduled Value without prior GDOT approval. GDOT intends for such modifications to occur rarely.
4. The Scheduled Value for each Payment Activity shall accurately represent the value of the Element of the Work identified.
5. Include separate Payment Activities for each of the following:
   a. Mobilization, which shall not exceed 2.5% of the sum of the Construction and Design Complete amount identified in the SOV.
   b. CQAF services contract (if required by DB Documents).
   c. Record Drawings (As-Built) Submittal, which shall be no less than 0.1% of the sum of the Construction and Design Complete amount identified in the SOV.
d. Completion of punch list items, which shall be no less than 0.5% of the sum of the Construction and Design Complete amount identified in the SOV.

e. Final Close-out, which shall be no less than 0.2% of the sum of the Construction and Design Complete amount identified in the SOV.

f. Demobilization, which shall be no less than 0.2% of sum of the Construction and Design Complete amount identified in the SOV.

### 2.6.1.2 SOV Submittal Requirements

The Proposal SOV (Volume 1, Exhibit 5) will be used to pay for Work performed during the first 90 days following NTP 1. Payment Requests based on the Proposal SOV are subject to Sections 2.6.1 (Payment Activities) through 2.6.10 (Payment to Contractors and Subcontractors). After 90 days, no further payment will be made until the SOV is approved by GDOT and is progressed for the period in which the DB Team intends to be paid. The SOV shall be submitted by the DB Team and reviewed by GDOT for approval in accordance with timing requirements and durations specified in Table 3-1.

An SOV Update shall be submitted with and shall justify the DB Team’s monthly Payment Requests. Provide SOV Updates in accordance with Section 2.6.4 (Payment Request Approval and Processing) and Section 2.6.5 (Documents Required to be Provided with the Payment Request). The DB Team and GDOT will agree upon the progress percent complete and the associated dollar amount for Work in place related to each Payment Activity shown on the SOV. Progress shown on Payment Activities must be reasonably associated with and supported by the activity status information as represented by the corresponding Project Schedule Update submittal.

### 2.6.2 Draft Payment Request

Submit a draft Payment Request to GDOT containing the amount asserted to be payable for each Payment Activity shown on the SOV and other amounts due under approved Supplemental Agreements. The draft Payment Request, lien release, and certification shall be submitted on forms provided or approved by GDOT, which approval shall be secured prior to the Payment Request Review Meeting.

Upon receipt of a draft Payment Request, GDOT will review the submitted Payment Request and provide comments to the DB Team listing any discrepancies and amounts intended to be withheld or deducted.

### 2.6.3 Payment Request Review Meeting

Schedule and hold a Payment Request review and progress status meeting with GDOT, if requested by GDOT, after submitting a draft Payment Request and prior to submitting a final Payment Request each month. The Payment Request review meeting is to obtain GDOT’s comments or the changes necessary to the draft Payment Request to allow a final Payment Request to be submitted by the DB Team. The meeting shall address and finalize the status of the following:
1. Excepting allowable Payment Requests based on the Proposal SOV, for each Payment Activity with progress provide supporting Project Schedule Update activity information including actual start dates, actual finish dates, and percent completes.
2. Incorporation of and summary list of all Supplemental Agreements.
3. Each Payment Activity which includes Nonconforming Work.
4. Any other payment requested, such as for mobilization, demobilization, insurance and bonding, or unincorporated materials.

2.6.4 Payment Request Approval and Processing
Submit a final Payment Request to GDOT by the fifth day of each month, containing the amount asserted to be payable for each Payment Activity and amounts due under approved Supplemental Agreements. The final Payment Request will address all comments provided by GDOT to the DB Team at the Payment Request review meeting.

Payment Request shall be submitted electronically using forms provided by GDOT and shall include supporting documentation for the amount claimed payable when requested by GDOT.

GDOT will review the Payment Request within five Business Days of receipt from the DB Team. If GDOT disagrees with the amounts requested or unresolved items remain, submit a revised Payment Request to address any outstanding issues identified by GDOT. If the DB Team includes items for payment that remain unresolved, GDOT will either: i) notify the DB Team that unresolved items in the Payment Request remain and request a resubmittal of a revised Payment Request; or ii) deduct those amounts GDOT asserts are not eligible for payment and process the Payment Request. In such case, GDOT shall notify the DB Team of any such deductions.

2.6.5 Documents Required to be Provided with the Payment Request
The following documents shall be submitted with each final Payment Request application. No Payment Request will be processed without such documents properly completed, signed, and dated:

1. SOV Update meeting the requirements of this Section 2.6 (Payment Requests and Payment) progressed through the month for which payment is being requested.
2. Excepting allowable Payment Requests based on the Proposal SOV, a Project Schedule Update submittal required by Section 2.5 (Project Schedule Requirements) progressed through the month for which payment is being requested.
3. All required insurance certificates.
4. Any other document or submittal required by the DB Documents to be provided.

2.6.6 Limitations on Progress Payments
GDOT will not pay for Work unless the following conditions are met with respect to such Work:

1. Accepted Released for Construction Documents and any supporting design documentation are on Site for the Work being performed and for which payment is being requested.
2. Nonconforming Work Items are corrected and/or resolved to the satisfaction of GDOT for Payment Activities that are asserted as complete.

3. Payment will be made based upon the approved Scheduled Value multiplied by the total percentage of the Work completed for that reporting period. Payment Activities shall not be fully paid (100% of the Scheduled Value) until that portion of the Work is completed and all applicable required documentation is received and accepted by GDOT.

4. The amount payable to the DB Team for insurance and bond premiums will be their actual cost, which will be paid (reimbursed) upon proof of payment by the DB Team. Where an activity requires submittal of a bond, the activity is complete when the bond has been provided in the amount and under the terms required in the Agreement.

5. For Mobilization Payment Activity:
   a. The first Payment Request after NTP 3 may include up to 50% of the amount for Mobilization set forth in the approved SOV.
   b. After 5% of the Construction total set forth in the approved SOV is incurred, the next Payment Request may include up to 100% of the amount of Mobilization set forth in the approved SOV, minus any previous payments.

2.6.7 Price Reductions for Nonconforming Work

On any Payment Request, GDOT may suspend or deduct amounts otherwise due to the DB Team for that period’s apportionment for any continuing activity for any of the items identified in Volume 1, Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions).

If the DB Team fails to completely prosecute Work or correct Nonconforming Work or incorrectly progressed Work for which that Payment Activity was paid in full, GDOT may deduct amounts from the next successive month for that Work until the Nonconforming Work is resolved to the satisfaction of GDOT.

Nonconforming Work, if accepted by GDOT, will result in reductions of the Contract Sum as specified herein. The DB Team shall be provided the opportunity to either accept a reduction offered by GDOT or to remove and replace the Nonconforming Work at no additional cost to GDOT.

Where provided for in the GDOT Standard Specifications, unit prices for deductions may be applied by GDOT, including pay factors, daily deductions, and rejection values. Amounts for reductions of Nonconforming Work allowed to remain in place by GDOT that are not covered by GDOT Standard Specifications shall be determined by GDOT.

Girder defects will be assessed for price reductions based on long-term durability and maintenance concerns.

2.6.8 Other Deductions

GDOT may deduct from any amounts otherwise owing to the DB Team, including for each monthly progress payment and the final payment, the following:

1. Any anticipated or accrued losses, liability, liquidated damages, fees, or other damages for which the DB Team is responsible.
2. The estimated or actual cost, as determined by GDOT, of remedying any Nonconforming Work or otherwise remedying any breach of contract by the DB Team.

3. The disputed amount of any outstanding claim relating to the Work.

4. The estimated amount, as determined by GDOT, or the amount identified in the SOV, whichever is greater, for Work that the DB Team is obligated to perform that the DB Team has failed to perform.

5. Any other sums which GDOT is entitled to withhold, deduct, or recover from the DB Team under the terms of the Contract.

6. With regard to final payment, in addition to the above, the amount GDOT deems advisable to retain to cover any existing or threatened Disputes, Claims, Liens, and stop notices relating to the Project, and the cost of any uncompleted Work (including uncompleted Warranty Work).

GDOT’s failure to deduct from a progress payment or final payment any amount that GDOT is entitled to recover from the DB Team under the Contract shall not constitute a waiver of GDOT’s right to such amounts.

2.6.9 Processing and Payment

Once GDOT reviews and approves a final or revised Payment Request acceptable to GDOT and in accordance with Sections 2.6.4 (Payment Request Approval and Processing) and 2.6.5 (Documents Required to be Provided with the Payment Request), GDOT will sign and date and return a copy of the Payment Request cover sheet with any corrections noted and proceed with processing the Payment Request.

2.6.10 Payment to Contractors and Subcontractors

Upon receipt of payment, promptly pay all Contractors out of the amount paid to the DB Team on account of the respective Work performed by such Contractors as and to the extent that such Contractors are entitled to same under the respective Contracts and applicable law. Require Contractors by appropriate agreement with the Subcontractors to require all such Subcontractors to make payments to all downstream sub-subcontractors and suppliers in a similar manner. GDOT shall have no obligation to pay or to see to the payment of money to the Contractors or Subcontractors, except as may otherwise be required by Law, provided however, that GDOT reserves the right to make payments to the DB Team and jointly payable to any such parties where the DB Team has failed to remit payments properly due and as required.

In no event shall the DB Team include in any Payment Request amount any request for payment on account of Work performed by any Contractor or Subcontractor that shall not be remitted to such parties in accordance with the terms of the DB Documents and applicable Law.

In no event shall either the DB Team or any Contractor or Subcontractor withhold or impose retainage on any Subcontractor or Supplier, or any downstream sub-subcontractors or suppliers of any tier. With each Payment Request, provide GDOT with details regarding the withholding or deduction of any payments to Contractors or Subcontractors, including specificity as to amounts and the basis for such withholding or deductions and if any such Contractors or Subcontractors are included within the DB Team’s DBE Commitments List.
2.6.11 Application for Final Payment

Final payment will be made in accordance with Section 2.6.12 (Final Payment).

On or about the date of delivery of GDOT’s issuance of the certificate of Final Acceptance, prepare and submit an application for final payment (“Final Payment”) to GDOT showing the proposed total amount due the DB Team. In addition to meeting all other requirements for invoices hereunder, the application for Final Payment shall include (i) the executed release and affidavit described below; (ii) a list of any asserted, outstanding, or pending Relief Events or Compensation Events and all existing or asserted claims, liens, and stop notices by Subcontractors, laborers, Utility Owners, or other third parties relating to the Project, including any notices filed or to be filed with the Affidavit of Final Completion, stating the amount at issue associated with each such notice; (iii) the written consent by the Surety to such payment; and (iv) such other documentation as GDOT may reasonably require.

GDOT will review the DB Team’s proposed application for Final Payment, and changes or corrections will be forwarded to the DB Team for correction. If no changes or corrections are required, GDOT will approve the Application for Final Payment.

2.6.12 Final Payment

As a condition to its obligation to make payment to the DB Team based on the application for Final Payment, GDOT shall have received an executed release from the DB Team, releasing and waiving any claims against the Indemnified Parties, excluding only those matters identified in any asserted, outstanding, or pending Relief Event or Compensation Event Notices listed as outstanding in the application for Final Payment, and otherwise satisfactory in form and content to GDOT.

The executed release shall be accompanied by an affidavit from the DB Team certifying the following:

1. All Work has been performed in strict accordance with the requirements of the DB Documents.
2. The DB Team has resolved any claims made by Subcontractors, Suppliers, Utility Owners, laborers, and others against the DB Team, GDOT, or the Project, except for those claims identified in the Application for Final Payment or those claims for which the Subcontractor has executed a release against GDOT, the Project, and the Payment Bond.
3. The DB Team has followed GDOT’s procedures for Final Acceptance and has provided complete lien releases from all Subcontractors and Suppliers, except for those with claims listed above, in a form and with language provided by GDOT.
4. The DB Team has no reason to believe that any Person has a valid claim against the DB Team, GDOT, or the Project that has not been communicated in writing by the DB Team to GDOT as of the date of the certificate.

All prior partial estimates and payments shall be subject to correction in the Final Payment.

The executed release and the affidavit shall survive Final Payment. The payment amount will be reduced by any amounts deductible under these DB Documents.
The DB Team’s acceptance of Final Payment shall constitute a waiver of affirmative claims by the DB Team, except such claims previously made in writing and identified in writing as outstanding and unsettled at the time of the application for Final Payment.

2.6.13 No Waiver
No payments shall be construed as an acceptance of any defective work or improper materials nor shall any such payments be conclusive evidence of the performance of this Agreement.

2.7 Project Closeout

2.7.1 Record Drawings and Project Closeout
The EOR will perform a Site visit at no more than 30 days following NTP 3, and subsequent Site visits no less than every 90 days thereafter until Substantial Completion is achieved. Additionally, an EOR Site visit will take place at the midpoint of each and every individual bridge construction. The purpose of the Site visits is for the EOR to visually inspect the progression of the Work for compliance to the RFC Documents. The EOR will prepare and stamp a Site observation compliance report to document elements of the Work that are compliant and non-compliant with the RFC Documents. If elements of the Work are not compliant with the RFC Documents, the EOR will coordinate with the DB Team to determine corrective action and describe the corrective action in the Site observation compliance report. The Site observation compliance report will be submitted within seven days of the Site visit and the EOR will schedule a subsequent quarterly As-built review meeting.

2.7.1.1 Engineer of Record Final Inspection
The EOR and CQAM will participate in any final inspection and prepare a final Site observation compliance report to document elements of the Work that are compliant and non-compliant with the RFC Documents. If elements of the Work are not compliant with the RFC Documents, the EOR will coordinate with the DB Team to determine corrective action and describe the corrective action in the final Site observation compliance report. This process will be repeated until no non-compliance items remain. The final Site observation compliance report(s) will be submitted within seven days of the Site visit, and the last one submitted, once all non-compliance items are corrected and meet the DB Requirements. Final Acceptance cannot be achieved until this process is complete and the final Site observation compliance report, stamped by the EOR and certified by the CQAM as accurate and complete, is received by GDOT.

2.7.1.2 Record Drawings
Submit to GDOT a complete set of Final Design documents and Record Drawings for all the Construction Phases of the Project within 30 days of Substantial Completion and upon completion of the Construction Work, organized by Construction Phase, as a condition to Final Acceptance. Ensure the Record Drawings and documentation are an organized, complete record of Work performed and supporting calculations and details that accurately represent what the DB Team constructed. Ensure that the Record Drawings reflect the actual condition of the constructed Work.
Provide, in accordance with Section 3 (Design and Submittals), in a portable flash drive containing:

1. All electronic design files, electronic calculations, etc.
2. Full-size 24-by-36-inch .pdf of each plan sheet and the entire plan set

Provide the following in hardcopy format:

1. Full-size 24-by-36-inch set of bound prints, or smaller size as may be agreed to by GDOT

Provide these Record Drawings not as field sketches or redlines, but as CAD generated drawings that compile all field changes, redlines, plan revisions, and all Nonconforming Work into a single strike-through format set of plans. Where appropriate, new drawings may be inserted in to the plans to depict portions of the as-built Work.

Ensure all files conform to the criteria for the design platform (InRoads, MicroStation, CAD) found in GDOT’s Electronic Data Guidelines (EDG).

The DB Team is responsible for all production and delivery of materials needed for GDOT review.

Final Acceptance cannot be achieved until a complete set of Record Drawings is received and accepted by GDOT.

2.8 Deliverables

As indicated in this Section 2 and in Section 3 (Design and Submittals).
3 DESIGN AND SUBMITTALS

3.1 General
Provide Project Submittals in both electronic and hardcopy format.

3.2 Administrative Requirements

3.2.1 Software
Proprietary structural design software may be used in lieu of GDOT specific computer software products. All alternative software products are subject to prior GDOT approval, and upon such approval may be used to design the following structural elements:

1. Prestressed concrete beams
2. Steel girders (both curved and straight)
3. Concrete decks
4. Bridge substructure, including end bents and intermediate bents
5. Foundations, including pilings and drilled caissons
6. Bearings

Structural analysis software may be used to perform complex analysis or finite element modeling of bridges and bridge elements.

Spreadsheets or MathCad-type programs may be used to develop hand calculations for repetitive design elements.

Ensure all software, spreadsheets, and MathCad output is present in design documentation so that it can be verified to be compliant with design requirements by an independent checker. Provide the input, formulas (with code references shown), and output for hand calculations developed using software so that it can be verified. Ensure that proprietary software output is not a black box type output, and all code checks are visible to be verified by an independent checker. GDOT may require further verification of results of any design software using GDOT bridge design programs, hand calculations, or structural analysis software. Seek GDOT determination of any such reviews, and account for any additional GDOT review time in the Project Schedule, which additional time shall not constitute a Relief Event.

Use of any software does not relieve the designer of their responsibility to perform required QA/QC of designs performed using this software. Errors or deficiencies that exist in any proprietary or commercial software that produce errors in the design or construction will be the responsibility of the DB Team.

InRoads output and Microsoft Excel spreadsheets may be subject to verification of results using GDOT’s bridge geometry program.
3.2.2 GDOT Standards and Manuals

Ensure that all Work complies with all applicable Manuals and Guidelines developed for and including AASHTO, FHWA, GDOT, and additional requirements stated in Attachment 3-1 (Manuals) and reasonably inferred therefrom.

Reference Section 1 (General) regarding applicability of GDOT standards and specifications and manuals.

All barriers shall be Manual for Assessing Safety Hardware (MASH) compliant except for cable barriers. Comply with Attachment 3-2 (Concrete Barrier Special Provision 621). Refer to Attachment 3-3 (Special Details – Parapet and Barriers) for GDOT special details.

3.2.3 Detailed Estimate of Quantities

Provide a detailed estimate with the RFC Plans that identifies GDOT Pay Items, pay item descriptions, units, and estimated quantities for the Project. Provide quantities in the Final Bridge Plans in accordance with the GDOT Bridge and Structures Design Manual.

3.3 Design Requirements

3.3.1 Design Workshop

The DB Team’s Engineer of Record (EOR) shall organize and facilitate the design review kick-off workshop with GDOT, no later than 30 days from NTP 1, to discuss the DB Team’s approach to design the Project, any phasing, design packages, and related design Submittals. Ensure that the Designer’s personnel, GDOT, and the Utility Adjustment Team (UAT) are in attendance. The purpose is to familiarize involved personnel with the design concepts, issues, status, and review procedures. Jointly develop the workshop agenda with GDOT and agree upon how it will be organized (such as by GDOT department and engineering discipline). During the design workshop, discuss with GDOT any application of Interim Design reviews to reach resolution for Project Elements that pose complex constraints or entail additional review effort. The workshop will also discuss the extent of GDOT and UAT reviews. The primary goal of the workshop is to make the design review process more effective and efficient for all parties. Agreements made regarding design review times are aspirational only and do not override the durations stipulated in the DB Documents.

3.3.2 Design Coordination Meetings

The EOR shall schedule and facilitate design coordination meetings. Ensure that the DQAM, the DB Team’s independent design reviewer(s), and any design professionals having significant input into the design under review are present. Notify and invite GDOT and the UAT to participate in all design reviews. Schedule design coordination review meetings no less frequently than monthly, or to the frequency determined by GDOT, until all Submittals have been accepted and Final Design is completed.

GDOT may also invite additional stakeholders to attend. GDOT’s participation in design coordination meetings does not relieve the DB Team of its responsibility for the satisfactory completion of the Work in accordance with all requirements of the DB Documents.
The EOR or designated design leads shall provide the meeting agendas at least three Business Days in advance of the meetings. Include in each agenda a detailed summary status of all submittals provided to GDOT that are the subject of the meeting. In addition, prepare and distribute minutes from the review meetings within three Business Days of the meeting.

Maintain design quality records in an auditable format according to the QMP procedures. GDOT has the right to audit the quality records for compliance with the QMP and DB Document requirements. Turn over all quality records to GDOT upon completion of the Project.

GDOT will facilitate a field plan review of the Final Design. At a minimum, the DB Team’s Engineer of Record (EOR) or design project manager and a representative of the DB Team’s contractor will attend.

### 3.3.3 Changes Subsequent to Design Review

Re-check and re-certify the design as an additional design review if the design is amended subsequent to design review and acceptance by GDOT. Substantive changes to plans and specifications initiated by the DB Team, and already checked by the EOR and certified by the DQAM, are subject to the design review process as an entirely new design.

### 3.3.4 Other Agency Approvals

#### 3.3.4.1 Federal Aviation Administration

No requirements.

### 3.3.5 Design Data Book

Document all design criteria and design decisions in a Project Design Data Book submitted for acceptance, and keep it with the Project files. Include in the Project Design Data Book complete and up-to-date design parameters and decisions (as applicable to the Project) as presented in Chapter 5 of the GDOT Plan Development Process (GDOT PDP) included in Attachment 3-1 (Manuals). Do not include in the Project Design Data Book proposed public involvement strategy, cost estimates, risk assessment, and schedule.

Submit the Project Design Data Book for GDOT review and acceptance no later than 21 days after NTP 1. GDOT may not review any Design Submittal(s) until the Project Design Data Book has been approved.

Update and include the relevant portions, or as requested by GDOT, of the Project Design Data Book with each design submittal, including Interim Plans, Field Plan Review, Final Design, RFC, and RFC revisions. Include the finalized and comprehensive Design Project Data Book with the Record Drawings submittal.

### 3.3.6 Design Submittals and Progress of Design Work

Documents received after 12:00 p.m. (noon) Eastern Standard or Daylight Savings Time (as applicable), including all notices, correspondence, communications (including e-mail and facsimile), or other Submittals received after 12:00 p.m. (noon), are deemed received on the
first Business Day following delivery (for example, in order for a fax to be deemed received on
the same day, at least the first page of the fax must have been received before 12:00 p.m.).

Deliver each required Submittal to GDOT in conformance of the review times provided in
Volume 1, Article 6.3.2 (Time Periods) and in Table 3-1 (Master Submittal List). The times
provided in Table 3-1 are specifically for the review period required for GDOT to comment and
GDOT to subsequently accept. Accuracy, completeness, and time spent to address GDOT
comments and resubmit for re-review are the responsibility of the DB Team.

No fabrication, casting, or construction will occur until all related design review and shop
drawing review comments are resolved and the corresponding drawings and specifications have
been accepted by GDOT and stamped Released for Construction.

Ensure all design Submittals are complete along with all the supporting information necessary
for review. The Submittal and supporting information must represent logical Work activities and
must show impacts on subsequent Work on this Project. Any modification to the component
construction due to subsequent design changes or as a result of design development is solely at
the DB Team's risk, regardless of GDOT acceptance.

Provide Project Submittals included in Table 3-1 (Master Submittal List). Table 3-1 may not be
all-inclusive or exhaustive. It is the DB Team’s responsibility to determine and submit all items
required by the DB Documents. Deliver each required Submittal to GDOT in compliance with
the review times provided. The times provided are specifically for the review period required for
GDOT to comment and subsequently accept (if all requirements of the DB Documents are met)
or approve, as applicable. Not all Submittals listed in Table 3-1 may be required for the Project,
and some Submittals may be combined into a single Submittal, such as the Project
Management Plans; coordinate with GDOT prior to combining any Submittals and receive
GDOT approval prior to omitting any listed Submittals.

### Abbreviations for Table

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC</td>
<td>Point File for Survey Data</td>
</tr>
<tr>
<td>AR</td>
<td>As Required</td>
</tr>
<tr>
<td>DTM</td>
<td>Digital Terrain Model</td>
</tr>
<tr>
<td>FS</td>
<td>Full-size paper – meets GDOT Plan Presentation Guide</td>
</tr>
<tr>
<td>HC</td>
<td>Hardcopy – 8 1/2&quot; x 11&quot; unless otherwise noted</td>
</tr>
<tr>
<td>HS</td>
<td>Half-size paper – meets GDOT Plan Presentation Guide</td>
</tr>
<tr>
<td>MP</td>
<td>Microsoft Project</td>
</tr>
<tr>
<td>MS</td>
<td>MicroStation File – Electronic</td>
</tr>
<tr>
<td>NA</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>NTP</td>
<td>Notice to Proceed</td>
</tr>
<tr>
<td>P6</td>
<td>Primavera P6</td>
</tr>
<tr>
<td>PAS</td>
<td>Per Approved Schedule</td>
</tr>
<tr>
<td>PDF</td>
<td>Adobe PDF – One complete file and individual plan sheet files that meet GDOT Electronic Plans Process requirements</td>
</tr>
</tbody>
</table>
## Table 3-1: Master Submittal List

<table>
<thead>
<tr>
<th>Section</th>
<th>Submittal Item</th>
<th>Format</th>
<th>Quantity</th>
<th>Delivery Date</th>
<th>Review Period* (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Monthly Status Reports (includes cost, schedule, quality, status, etc.)</td>
<td>PDF</td>
<td>1</td>
<td>5th of each Month</td>
<td>NA</td>
</tr>
<tr>
<td>2; 3</td>
<td>Design and Construction Quality Records</td>
<td>AR</td>
<td>1</td>
<td>Always auditable; Submit at project completion</td>
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<tr>
<td>2.1.1.1; 2.1.4; 3</td>
<td>Meeting minutes</td>
<td>PDF</td>
<td>1</td>
<td>Within 3 days of each meeting</td>
<td>7</td>
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<td>2.2.1</td>
<td>Management Plans</td>
<td>PDF</td>
<td>1</td>
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<td>14</td>
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<td>2.2.3.1</td>
<td>Public Information Materials</td>
<td>AR, PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
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<tr>
<td>2.2.3.2</td>
<td>Construction Progress Photos and Video</td>
<td>AR, PDF</td>
<td>1</td>
<td>Monthly or as needed based on construction milestones or events</td>
<td>N/A</td>
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<tr>
<td>2.2.4</td>
<td>Construction Phasing and Staging Plan</td>
<td>PDF</td>
<td>1</td>
<td>Within 60 days from NTP 1 and within 14 days of being directed</td>
<td>30</td>
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<tr>
<td>2.3.2</td>
<td>Quality Management Plan (QMP) including Administrative portion and the DQMP</td>
<td>PDF</td>
<td>1</td>
<td>Within 30 days from NTP 1 prior to the start of design</td>
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<td>Construction Quality Management Plan</td>
<td>PDF</td>
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<tr>
<td>2.3.3</td>
<td>DB Team Non-Conformance Reports</td>
<td>AR</td>
<td>1</td>
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<td>2.4.1</td>
<td>Safety Plan</td>
<td>PDF</td>
<td>1</td>
<td>See Section 2 (Project Management)</td>
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<td>2.5.1</td>
<td>Baseline Project Schedule</td>
<td>P6, PDF</td>
<td>1, 1</td>
<td>Within 60 days from NTP 1</td>
<td>30</td>
</tr>
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<td>2.5.1; 2.5.3</td>
<td>Baseline and Revised Baseline Project Schedule resubmittals</td>
<td>P6, PDF</td>
<td>1, 1</td>
<td>Within 14 days of being directed</td>
<td>14</td>
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<td>2.5.2</td>
<td>Project Schedule Update</td>
<td>P6, PDF</td>
<td>1, 1</td>
<td>5th of each Month or as otherwise agreed</td>
<td>14</td>
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<td>Project Schedule Update resubmittals</td>
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<td>Within 7 days of being directed</td>
<td>7</td>
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<td>2.5.3</td>
<td>Revised Baseline Project Schedule</td>
<td>P6, PDF</td>
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<td>Within 14 days of being directed or as required</td>
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<td>2.5.9</td>
<td>Two-Week Detail Schedule</td>
<td>PDF</td>
<td>1</td>
<td>Same day every week in which Construction Work occurs</td>
<td>7</td>
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<td>2.6.1</td>
<td>Schedule of Values (SOV)</td>
<td>PDF</td>
<td>1</td>
<td>Within 60 days from NTP 1</td>
<td>14</td>
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<tr>
<td>2.6.1</td>
<td>SOV Updates</td>
<td>PDF</td>
<td>1</td>
<td>Within 14 days of being directed</td>
<td>7</td>
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<tr>
<td>Section</td>
<td>Submittal Item</td>
<td>Format</td>
<td>Quantity</td>
<td>Delivery Date</td>
<td>Review Period* (Days)</td>
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<td>-------------------------------------------------------------------------------</td>
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<tr>
<td>2.7.1</td>
<td>EOR site observation compliance report</td>
<td>PDF</td>
<td>1</td>
<td>See Section 2</td>
<td>14</td>
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<td>2.7.1.2</td>
<td>Record Drawings (As-Built Plans)</td>
<td>FS, HS, PDF</td>
<td>See Sec. 2.7.1.2</td>
<td>**</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>Final Design Specifications, Reports, Whitepapers, etc.</td>
<td>AR, PDF</td>
<td>1</td>
<td>**</td>
<td>14</td>
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<td>3.3.1</td>
<td>Interim Design &amp; Field Plan Review Plans</td>
<td>FS, HS, PDF</td>
<td>1, 10, 1</td>
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<td>21</td>
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<td>3.3.5</td>
<td>Project Design Data Book (and updates)</td>
<td>PDF</td>
<td>1</td>
<td>Within 21 days from NTP 1</td>
<td>7</td>
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<td>3.3.7.2;3.3.8.6.5</td>
<td>Plan Revisions During Construction</td>
<td>AR, PDF</td>
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<td>3.3.8</td>
<td>Temporary Works - where public safety may be affected</td>
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<td>3; 4.3.2</td>
<td>Notice of Intent (NOI) with final/signed Erosion Control Plans and</td>
<td>PDF</td>
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<td>14</td>
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<td></td>
<td>4.3; Design Manual</td>
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<td>4.3.1</td>
<td>Information to support GDOT - Led Governmental Approvals</td>
<td>PDF, AR</td>
<td>1</td>
<td>As needed</td>
<td>Table 4-1</td>
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<tr>
<td>4.3.2</td>
<td>Restoration/Mitigation Plan(s)</td>
<td>AR, PDF</td>
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<td>14</td>
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<td>4.3.2</td>
<td>Section 404, permit(s)</td>
<td>PDF</td>
<td>1</td>
<td>**</td>
<td>Table 4-3</td>
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<td>4.3.2</td>
<td>Water Quality Certification (concurrently with the USACE Permit)</td>
<td>PDF</td>
<td>1</td>
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<td>Table 4-3</td>
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<td>4.3.2</td>
<td>GA EPD Buffer Variance Application</td>
<td>PDF</td>
<td>1 per NOI package</td>
<td>**</td>
<td>Table 4-3</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Applications to Regulatory Agencies, Application revisions, supplements</td>
<td>AR, PDF</td>
<td>1</td>
<td>As needed</td>
<td>***</td>
</tr>
<tr>
<td>4.3.3</td>
<td>Comprehensive Environmental Protection Plan (CEPP)</td>
<td>PDF</td>
<td>1</td>
<td>Within 60 days from NTP 1</td>
<td>14</td>
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<tr>
<td>4.3.4</td>
<td>Hazardous Materials Management Plan (HMMP)</td>
<td>AR, PDF</td>
<td>1</td>
<td>As needed. Within 60 days from NTP 1</td>
<td>14</td>
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<tr>
<td>6.2.2</td>
<td>Utility A/O Claims of Real Property Interests</td>
<td>PDF</td>
<td>1</td>
<td>See Section 6 (Utility Adjustments)</td>
<td>14</td>
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<tr>
<td>Section</td>
<td>Submittal Item</td>
<td>Format</td>
<td>Quantity</td>
<td>Delivery Date</td>
<td>Review Period* (Days)</td>
</tr>
<tr>
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<tr>
<td>6.2.2.1</td>
<td>All Utility Meeting Minutes</td>
<td>PDF</td>
<td>1</td>
<td>Within 7 days of Utility Meeting</td>
<td>3</td>
</tr>
<tr>
<td>6.3</td>
<td>Overhead/Subsurface Utilities Engineering (SUE) Information to Utilities for Review (URPN Letter 1a - SUE Submit to Utility Companies Revise)</td>
<td>FS, HS, PDF, MS</td>
<td>Plans: 2 for each Utility Owner +3 for Dept. and MS files</td>
<td>NTP 1 + 5 Calendar Days (Or as Determined by District Utilities Manager at SUE Kick-Off meeting)</td>
<td>5 days for Dept. + 30 days for each Utility Owner</td>
</tr>
<tr>
<td>6.3</td>
<td>Relocated Utility Plans (URPN Letter 2 - 2nd Submission Letter (Existing and Proposed))</td>
<td>FS, HS, PDF, MS</td>
<td>3, 3, 1, 1</td>
<td>Concurrently with Accepted SUE Verification by Utility Owner</td>
<td>5 days for Dept. + 90 days for each Utility Owner</td>
</tr>
<tr>
<td>6.3</td>
<td>Utility Plans/Agreements (Utility NTP Letter)</td>
<td>Plans/Agreements HS, PDF, MS</td>
<td>1, 3, 1, 1</td>
<td>See Section 6 (Utility Adjustments)</td>
<td>Plans: 30 days for Dept. + 60 days for each Utility Owner</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Supplemental verification of Overhead/Subsurface Utility Engineering (SUE) Investigations - QL-B</td>
<td>MS, PDF</td>
<td>1, 1</td>
<td>NTP (1) + 45 Calendar Days (Or as Determined by State Subsurface Utilities Engineer at the SUE Kick-Off meeting which is concurrent with the first utility coordination meeting)</td>
<td>NA</td>
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<tr>
<td>Section</td>
<td>Submittal Item</td>
<td>Format</td>
<td>Quantity</td>
<td>Delivery Date</td>
<td>Review Period* (Days)</td>
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<td>-------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>6.3.2</td>
<td>Overhead/Subsurface Utility Engineering (SUE) Investigations - QL-A as required</td>
<td>MS, PDF</td>
<td>Plans: 2 for each Utility Owner +3 for Dept. and MS files</td>
<td>UIA + 45 Calendar Days</td>
<td>NA</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Utility Retention Request</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
</tr>
<tr>
<td>6.3.7</td>
<td>SUE Utility Impact Analysis (UIA)</td>
<td>PDF</td>
<td>1</td>
<td>NTP 1 + 120 Calendar Days (Or as Determined by State Subsurface Utilities Engineer at the SUE Kick-Off meeting which is concurrent with the first utility coordination meeting)</td>
<td>NA</td>
</tr>
<tr>
<td>6.4</td>
<td>Utility Adjustment Field Modification Procedure</td>
<td>PDF</td>
<td>1</td>
<td>Prior to submittal of any Utility Work Plan</td>
<td>14</td>
</tr>
<tr>
<td>6.4.7</td>
<td>Utility Emergency Response Plan</td>
<td>AR, PDF</td>
<td>1</td>
<td>30 days Prior to NTP 3</td>
<td>14</td>
</tr>
<tr>
<td>6.5.2</td>
<td>Preliminary Utility Status Report</td>
<td>HC, PDF</td>
<td>Plans: 2 for each Utility Owner + 3 for Dept. and MS files</td>
<td>NTP 1 + 180 days Concurrently with Accepted Relocated Utility Plans and (URPN Letter 6 - Notice to Proceed with Permit)</td>
<td>10-days + 5 days</td>
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<tr>
<td>6.5.4</td>
<td>Intermediate Utility As-Built Plans</td>
<td>PDF</td>
<td>1</td>
<td>Within 30 days of completed utility adjustment, installation, relocation or abandonment</td>
<td>14</td>
</tr>
<tr>
<td>Section</td>
<td>Submittal Item</td>
<td>Format</td>
<td>Quantity</td>
<td>Delivery Date</td>
<td>Review Period* (Days)</td>
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<td>-----------------------</td>
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<tr>
<td>6.5.4</td>
<td>Final Utility Record Drawings (As-Built Plans)</td>
<td>FS, HS, PDF, MS</td>
<td>2,3,1,1</td>
<td>Concurrently w/Accepted Construction Record Drawings (As-Built Plans)</td>
<td>30 days for GDOT plus 30 days for Utility Owners</td>
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<tr>
<td>7</td>
<td>Various ROW submittals</td>
<td>AR, PDF</td>
<td>As needed</td>
<td>See Section 7 (ROW – Additional Properties)</td>
<td>See Secs 7</td>
</tr>
<tr>
<td>8.3.2</td>
<td>BFI (Bridge Foundation Investigation)</td>
<td>PDF</td>
<td>1</td>
<td>**</td>
<td>30</td>
</tr>
<tr>
<td>8.3.4</td>
<td>Soil Survey Reports</td>
<td>PDF</td>
<td>1</td>
<td>See Section 8 (Geotechnical)</td>
<td>30</td>
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<tr>
<td>8.3.6</td>
<td>WFI (Wall Foundation Investigation)</td>
<td>PDF</td>
<td>1</td>
<td>**</td>
<td>30</td>
</tr>
<tr>
<td>8.4</td>
<td>Blasting Plan</td>
<td>AR, PDF</td>
<td>1</td>
<td>As needed</td>
<td>30</td>
</tr>
<tr>
<td>9.2.3</td>
<td>Property Owner Notification Letters</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>7</td>
</tr>
<tr>
<td>9.3.2</td>
<td>Survey Control Package</td>
<td>ASC, PDF</td>
<td>1</td>
<td>Prior to Project Completion</td>
<td>N/A</td>
</tr>
<tr>
<td>9.3.6</td>
<td>Bound Field Notes</td>
<td>PDF</td>
<td>1</td>
<td>Prior to Project Completion or upon GDOT request</td>
<td>N/A</td>
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<tr>
<td>9.3.6</td>
<td>Topographic Mapping</td>
<td>DTM, PDF</td>
<td>1, 1</td>
<td>Prior to Project Completion</td>
<td>N/A</td>
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<tr>
<td>10.3.2</td>
<td>Demolition and Abandonment Plan</td>
<td>PDF</td>
<td>1</td>
<td>Within 90 days from NTP 1</td>
<td>14</td>
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<tr>
<td>11.4.1</td>
<td>Vibration Control Plan</td>
<td>PDF</td>
<td>1</td>
<td>Within 120 days from NTP 1 and 30 days prior to NTP 3</td>
<td>14</td>
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<tr>
<td>12.3.2.2</td>
<td>Annual Outfall Inspection Report</td>
<td>PDF</td>
<td>1</td>
<td>Within 30 days of Annual DB Team Inspection</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Record of attendance in periodic training</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Record of distributing stormwater related</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>educational materials to the public</td>
<td></td>
<td></td>
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<td>12.3.2.2</td>
<td>Record of pet waste program</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Outfall Map and Inventory</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Record of conducting inspections of outfalls</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
</tr>
<tr>
<td>12.3.2.2</td>
<td>Procedures for receiving and responding to</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
</tr>
<tr>
<td>12.3.2.2</td>
<td>complaints related to illicit discharges</td>
<td></td>
<td></td>
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<tr>
<td>12.3.2.2</td>
<td>Spill response procedures</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>Section</td>
<td>Submittal Item</td>
<td>Format</td>
<td>Quantity</td>
<td>Delivery Date</td>
<td>Review Period* (Days)</td>
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<tr>
<td>12.3.2.2</td>
<td>Erosion, Sedimentation and Pollution Control Plans (ESPCPs)</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<td>12.3.2.2</td>
<td>Procedures for receiving and responding to erosion and sedimentation complaints</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Record of ensuring through Contracts or other mechanisms that construction site operators control waste</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Procedures for bringing Contractors back into compliance with the Contract requirements</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Inventory of post-construction stormwater management structures</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Inspect GDOT accepted Post Construction Stormwater management structures</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Provide an annual copy of required maintenance performed</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.3.2.2</td>
<td>Inventory and Map of MS4 structures</td>
<td>See SP 156</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<td>12.3.2.2</td>
<td>Perform inspections on 20% of all GDOT MS4 structures within the project area</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<td>12.3.2.2</td>
<td>Record of all field personnel with supervisory capacity assigned to the project attending a GDOT F-SWPP training course once every 5 years</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
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<tr>
<td>12.3.2.2</td>
<td>Procedures for receiving and responding to complaints related to MS4 structures</td>
<td>PDF</td>
<td>1</td>
<td>See Attachment 12-1</td>
<td>30</td>
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<tr>
<td>12.5.2</td>
<td>Hydraulic and Hydrologic (H&amp;H) Study (submit together with the Bridge Preliminary Layout)</td>
<td>PDF</td>
<td>1</td>
<td>**</td>
<td>30</td>
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<tr>
<td>12.5.3</td>
<td>Drainage Design Report (Phased)</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>30</td>
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<tr>
<td>13.5.1</td>
<td>Preliminary Bridge Layouts (submit together with the Hydraulic &amp; Hydrology Report)</td>
<td>FS, HS, PDF</td>
<td>2, 6, 1</td>
<td>**</td>
<td>14</td>
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<tr>
<td>13.5.2</td>
<td>Preliminary Wall Layouts</td>
<td>FS, HS, PDF</td>
<td>2, 6, 1</td>
<td>**</td>
<td>14</td>
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<tr>
<td><strong>13.5.3</strong></td>
<td><strong>Final Bridge Plans</strong></td>
<td><strong>FS, HS, PDF</strong></td>
<td>2, 6, 1</td>
<td>**</td>
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<td>13.5.3</td>
<td><strong>Final Wall Plans</strong></td>
<td><strong>FS, HS, PDF</strong></td>
<td>2, 6, 1</td>
<td>**</td>
<td><strong>21</strong></td>
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<td>Section</td>
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<td>Format</td>
<td>Quantity</td>
<td>Delivery Date</td>
<td>Review Period* (Days)</td>
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<td>13.5.4</td>
<td>Bridge Demolition Plan</td>
<td>AR, PDF</td>
<td>AR</td>
<td>Within 150 days from NTP 1 and 30 days prior to NTP 3</td>
<td>14</td>
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<td>14</td>
<td>Submittals as required per railroad requirements</td>
<td>AR</td>
<td>AR</td>
<td>** and as required by the railroad</td>
<td>60</td>
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<td>15.2.2</td>
<td>Landscaping Plans</td>
<td>AR, FS, HS, PDF</td>
<td>2, 6, 1</td>
<td>**</td>
<td>14</td>
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<td>15.3.4</td>
<td>Documentation from supplier of Georgia Grown source for all vine, shrub and tree plants</td>
<td>AR</td>
<td>AR</td>
<td>Prior to installation</td>
<td>3</td>
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<tr>
<td>15.4</td>
<td>Samples, mock-ups, and catalog cuts for embellishment elements</td>
<td>AR</td>
<td>AR</td>
<td>60 days prior to starting production or construction</td>
<td>14</td>
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<td>16.3.2</td>
<td>Overhead Sign Support Structures Concept Plans</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
</tr>
<tr>
<td>16.3.2</td>
<td>Overhead Sign Support Structures Final Plans</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
</tr>
<tr>
<td>16.3.4.2</td>
<td>Traffic Signal Timing Plans</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
</tr>
<tr>
<td>16.3.4.3</td>
<td>Traffic Signal Permit/Engineering Study</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>30</td>
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<td>16.5.1</td>
<td>Intersection Design Studies</td>
<td>PDF</td>
<td>1</td>
<td>**</td>
<td>14</td>
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<td>16.5.1</td>
<td>Preliminary Signing and Marking, Signal Plan Layout</td>
<td>FS, HS, PDF</td>
<td>2, 6, 1</td>
<td>As needed</td>
<td>21</td>
</tr>
<tr>
<td>16.5.1</td>
<td>New Sign requests</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
</tr>
<tr>
<td>17</td>
<td>ITS Related Submittals</td>
<td>AR</td>
<td>AR</td>
<td>Refer to Section 17 (Intelligent Transportation Systems)</td>
<td>21</td>
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<td>18.3.1</td>
<td>Transportation Management Plan (TMP)</td>
<td>PDF</td>
<td>1</td>
<td>Within 120 days from NTP 1</td>
<td>21</td>
</tr>
<tr>
<td>18.3.2</td>
<td>Traffic Control Plans (each Phase)</td>
<td>PDF</td>
<td>1</td>
<td>As needed</td>
<td>14</td>
</tr>
<tr>
<td>19.3.3</td>
<td>Maintenance Management Plan including Joint Project Inspection submittal</td>
<td>PDF</td>
<td>1</td>
<td>Within 150 days from NTP 1</td>
<td>21</td>
</tr>
<tr>
<td>Vol. 2; Attach. 3-1</td>
<td>Subcontracts</td>
<td>PDF</td>
<td>1</td>
<td>As requested; In accordance with the Construction Manual</td>
<td>14</td>
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<tr>
<td>Various</td>
<td>Final Plans (100%)</td>
<td>FS, HS, PDF</td>
<td>2, 10, 1</td>
<td>**</td>
<td>30</td>
</tr>
<tr>
<td>Various</td>
<td>Released for Construction (RFC) Plans</td>
<td>HS, FS, PDF</td>
<td>3, 10, 1</td>
<td>**</td>
<td>NA</td>
</tr>
</tbody>
</table>
*Review period is the period required for the generation of comments or the review time to determine the state or status of the document. Plan for multiple review periods that may be required for any submittal to secure Accepted or Approved status from GDOT.

If a submittal is not listed, the review time shall be 30 days per Volume 1, Article 6.3.2 (Time Periods).

** Based upon the approved Baseline Project Schedule
*** Time of review will be based upon actual impact to Project
**** See Technical Provisions

**BOLDED and *Italicized* = requires FHWA review and approval**
3.3.7 Additional Submittal Requirements
Obtain any Government Approvals or other approvals required to allow for implementation and construction of the Construction Phasing and Staging Plan.

3.3.7.1 Staged Design Submittals
The DB Team may submit Staged Design Submittals (components) for the Project. A Staged Design Submittal is a submittal that consists of a portion or portions of the Work within the limits of an accepted Construction Phase. For example, a Staged Design Submittal for a bridge might be categorized as foundations, substructures, abutments, or complete continuous units of superstructure. Staged Design Submittals for other components of the Project might include grading, drainage, signing and pavement marking, and erosion control. Ensure the Staged Design Submittals, Construction Phasing and Staging Plan, and Project Schedule are aligned and consistent. Ensure that Staged Design Submittals also includes all reports, specifications, studies, calculations, and supporting documents and information.

For each Construction Phase shown in the Construction Phasing and Staging Plan, either submit a complete set of drawings or make a series of Staged Design Submittals (components). The timing and content of Staged Design Submittals must be logical and include or be preceded by related items (e.g., bridge submittals must include or be preceded by related highway geometry; a bridge and its related retaining walls must be submitted together; etc.).

3.3.7.2 Changes to Accepted and Released for Construction Submittals
After a design package has been Released for Construction (RFC), any subsequent design changes must be submitted to GDOT with documentation from the EOR sufficient to justify the reasoning behind the change request. The DB Team must obtain written acceptance prior to its implementation as a plan revision, and prior to any related subsequent construction activity. Minor field adjustments or redline revisions do not require EOR approval or prior written acceptance.

3.3.7.3 Plan Presentation Requirements
Provide all plan submittals as required by and in accordance with the GDOT Plan Development Process (PDP), Electronic Data Guidelines (EDG) and the Plan Presentation Guide (PPG).

Ensure the Plans are fully dimensioned in English units and all elevations necessary for construction are shown similar to GDOT’s normal practice. Prepare all plans on the scales according to GDOT’s PPG.

Include details for all civil elements and calculations within proximity of the Site, for each location, so that these locations can be reviewed holistically and connections with communication and electrical networks are clearly understood.

3.3.7.4 Construction Plans Organization and Sheet Index
Assemble construction plans according to GDOT’s PPG.
3.3.7.5 Computations

Record all design computations and computer printouts neatly on 8.5- by 11-inch sheets, fully titled, numbered, indexed, dated, and signed by the designer/Project manager and checker. Submit the computer files and one copy of the computations fully checked and appropriately bound to GDOT with the plans.

Submit a complete tabulation of the drainage analysis along with the calculations used to determine the size of drainage structures to GDOT.

3.3.7.6 Submittal Formats

Ensure each design submittal, in addition to electronic delivery in .pdf format on the PMCS, consists of scalable 11-by-17-inch or 12-by-18-inch drawings, full size 24-by-36-inch design drawings, and calculations. Provide a portable flash drive of the submittal including all InRoads and MicroStation V8 format files upon GDOT request.

Ensure documents for all Final Plan submittals (plans, calculations, specifications, reports, etc.) is sealed by a qualified Professional Engineer. In addition to written design review comments (if any), design drawings may be returned to the DB Team with any remarks indicated.

3.3.7.7 Additional Specifications

Prepare and submit specifications for Construction Work included in the plans which are not covered by GDOT’s Standard Specifications, the Supplemental Specifications, and/or the Special Provisions as required in Attachment 3-1 (Manuals) in addition to the design drawings that include Georgia standards and details.

3.3.7.8 Submittals Process

Review of the Design Documents by GDOT may be limited to the basic requirements of the DB Documents, relating to design compliance and material types and may not include detailed review or checking of design of components and related details or the accuracy with which such designs are depicted on the design drawings.

Review or acceptance by GDOT or other Persons of any Design Documents does not relieve the DB Team of responsibility under the Contract, including the overall correctness of Design Documents, such as engineering mathematical computations. Submit all Design Documents, including plans, specifications, reports, calculations, shop drawings (where public safety is affected), and Permit documents to GDOT.

Provide all copies for distribution. GDOT will be responsible for distributing the submittals to all required parties of the contract.

Include with all submittals a cover letter describing the submittal, review period, and the due date for any GDOT response.

Include in all Submittals the DB Team’s QA certification statement (in addition to the design consultant’s QA certification statement for all design-related submittals) including a certification statement that the submittal complies with all terms and conditions of the Agreement, signed by the EOR. GDOT will reject any submittal if the QA certification statement is not included.
3.3.7.9 Required Participants of the Process

The QAM and DQAM, except as otherwise required in the DB Documents, will be primarily responsible for verifying that the accepted Design Quality Management Plan process as required in Section 2.3 (Quality Management Requirements) has been followed, verifying that the submittal meets all DB Document requirements, ensuring that all necessary Governmental Approvals have been obtained by the DB Team, and performing any review(s) as provided for in this Section 3.

Provide all required Submittals in compliance with the DB Documents.

3.3.7.10 GDOT Design Review Process

Provide the submittal to GDOT via the PMCS and the required copies in accordance with the DB Documents. Categorize submittals into Discipline Groups as follows:

1. Right of Way, Railroad, and Utilities (RRU Group)
2. Roadway, Drainage, and Maintenance of Traffic (RDMOT Group)
3. Bridge, Structures, Retaining Walls, and Aesthetics (BSRA Group)
4. ITS, Traffic (includes signing, pavement marking, signals, and lighting) (ITSTT)
5. All types (ALL Group)
6. Other (OTH)

GDOT will log in the submittal and distribute to the required review participants.

The review period begins the following Business Day after any submittal is received for the period prescribed in Volume 1, Article 6.3.2 (Time Periods) and Table 3-1 (Master Submittal List), except where there is a maximum number of concurrent submittals of a particular type specifically noted in this Section 3. In cases where the maximum is exceeded, the review period will begin when prior submittal reviews are completed so that the maximum number in concurrent review is not exceeded. For the general case where there is not a maximum number of concurrent submittals specifically noted in this Section 3, an additional seven days will be added to the prescribed review period whenever there are more than five concurrent submittals in review in the subject document’s particular Discipline Group. Further, an additional seven days will be added for each additional increment of five concurrent submittals in review in a Discipline Group. For example, if there are six to 10 submittals in concurrent review in a Discipline Group, then an additional seven days are added; and if there are 11 to 15 submittals in concurrent review in a Discipline Group, then an additional 14 days are added, etc. For purposes of calculating the number of submittals, the accepted Project Schedule will generally be used as a guide, except that complementary documents, for example bridge plans and bridge calculations, will be considered a single Submittal. Documents that fully integrate multiple disciplines in the presentation, for example roadway and drainage plans, together with the respective calculations would be counted as one submittal. For documents or packages that include multiple bridges, each individual bridge will be counted as a separate submittal. For documents or packages that include multiple retaining walls, noise barriers, BFIs, or WFIs, GDOT determine the number of Submittals to be counted.

Once a review is complete, the drawings or Submittal will be designated by GDOT as either:
1. Accepted
2. Accepted with Comments
3. Rejected

The terms Accepted and Accepted with Comments mean that the design process may proceed, and is not a notice that construction may begin.

If Accepted or Accepted with Comments: The GDOT representative will deliver the comments and, if necessary, return the drawings or Submittal via PMCS or hardcopy to the DB Team.

If Rejected: the GDOT representative will deliver the rejected drawings or Submittal via PMCS or hardcopy to the DB Team. Address the specific comments and resubmit. The resubmittal is a new Submittal and follows the same time period as provided in Volume 1, Article 6.3.2 (Time Periods) and Table 3-1 (Master Submittal List). Drawings or Submittals may be rejected without review if the submission is incomplete.

### 3.3.8 Shop Drawings and Temporary Works Submittals

#### 3.3.8.1 General

Shop drawings include all working, shop, and erection drawings, associated trade literature, calculations, schedules, manuals, and similar documents submitted by the DB Team to define some portion of the Project work. The type of work includes both permanent and temporary works as appropriate to the Project. Permanent works include all the permanent structures and parts thereof required of the completed DB Documents. Temporary works include any temporary construction work necessary for the construction of the permanent works. This includes falsework, formwork, scaffolding, shoring, temporary earthworks, sheeting, cofferdams, special erection equipment, and the like. Falsework includes any temporary Construction Work used to support the permanent structure until it becomes self-supporting. Falsework includes steel or timber beams, girders, columns, piles and foundations, and any proprietary equipment including modular shoring frames, post shores, and adjustable horizontal shoring. Formwork includes any structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Formwork comprises common materials such as wood or metal sheets, battens, soldiers and walers, ties, proprietary forming systems such as stay-in-place metal forms, and proprietary supporting bolts, hangers, and brackets. Formwork may be either permanent formwork requiring a shop drawing submittal such as stay-in-place metal or concrete forms or may be temporary formwork that requires certification by the Professional Engineer designing the specialized components (the Specialty Engineer) for construction affecting public safety and for major and unusual structures. Scaffolding is an elevated work platform used to support workmen, materials and equipment, but not intended to support the structure. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. This term is interchangeable with falsework.

Construction affecting public safety is defined as construction that may jeopardize public safety, such as structures spanning functioning vehicular roadways, pedestrian walkways, railroads, navigation channels of navigable waterways, and walls or other structure foundations located in
embankments immediately adjacent to functioning roadways. It does not apply to those areas of the Site under the DB Team’s control and outside the limits of, or influence of, normal public access.

For the purpose of shop drawing review and processing as described in this Section 3.3.8, the term Shop Drawing Engineer means a Professional Engineer as defined in Volume 1, Exhibit 1 (Acronyms and Definitions) and applies to the initiator or producer of shop drawings regardless of whether or not that party is normally the lead Professional Engineer for the design or the EOR; and the term Shop Drawing Checking Engineer means a Professional Engineer as defined in Exhibit 1 of Volume 1 and applies to the shop drawing checker and certifier regardless of whether or not that party is normally the EOR, the Shop Drawing Engineer, or the lead Professional Engineer for the design.

3.3.8.2 Work Items Requiring Shop Drawings

In general, GDOT requires shop drawings for items of work not fully detailed in the plans which require additional drawings and coordination prior to constructing the item, including:

1. Bridge components not fully detailed in the plans (i.e., segments, steel girder details, post-tensioning details, handrails, etc.)
2. Retaining wall systems.
3. Precast box culverts.
4. Non-standard drainage structures, attenuators, and other nonstructural items.
5. Building structures.
6. Drainage structures, attenuators, and other nonstructural items.
7. Design and structural details furnished by the DB Team in compliance with the DB Documents.
8. Temporary Works affecting public safety.
9. Erection plans for curved steel bridges

3.3.8.3 Schedule of Submittals

Include shop drawings in the required Project Schedule. For each planned shop drawing submittal, define the type and approximate number of drawings or other documents that are included and the planned submittal date, considering the processing requirements herein. Coordinate subsequent submittals with Project Schedule to allow sufficient time for review and re-submittal as necessary.

3.3.8.4 Style, Numbering, and Material of Submittals

3.3.8.4.1 Drawings

Submit the shop drawings electronically in PDF format on the PMCS. Furnish four sets of shop drawings to GDOT for review in addition to the electronic delivery. Consecutively number each sheet in the submittal series, and indicate the total number in the series (i.e., 1 of 12, 2 of 12, 12 of 12), and include on each sheet the following items as a minimum requirement:
1. Bridge Numbers.
2. Drawing title and number.
3. A title block showing the names of the fabricator or producer and the DB Team for which the work is being done.
4. The initials of the persons responsible for the drawing.
5. The date on which the drawing was prepared.
6. The location of the items within the Project.
7. The DB Team’s approval stamp with date and initials.
8. The signature and seal of the Specialty Engineer when applicable.

A re-submittal will be requested when any of the required information is not included.

3.3.8.4.2 Other Documents

Provide four sets of original documents or clearly legible photographic or xerographic copies of documents other than drawings, such as trade literature, catalogue information, calculations, and manuals in addition to electronic delivery in PDF format on the PMCS.

Clearly label and number each sheet in the submittal to indicate the total number of sheets in the series (i.e., 1 of 12, 2 of 12, . . . 12 of 12), and provide an additional three sets of documentation for items involved with precast pre-stressed components and an additional two sets of documentation for items involving structural steel components.

Bind and submit all documents with a table of contents cover sheet, and list on the cover sheet the total number of pages and appendices. Include a title referencing the submittal items, the name of the firm and persons responsible for the preparation of the document, the DB Team’s approval stamp with date and initials, and, when applicable, the signature and seal of the Specialty Engineer.

Submit appropriately prepared and checked calculations and manuals that clearly outline the design criteria, and include on the internal sheets the initials of the persons responsible for preparing and checking the document.

Clearly label trade literature and catalogue information on the front cover with the title, date, and name of the firm and persons responsible for that document.

3.3.8.4.3 Qualified Products List

Shop drawings are not required for Qualified Products accepted by GDOT and included on the Qualified Product Lists as specified in Attachment 3-1 (Manuals). Submit shop drawings to GDOT after the Shop Drawing Checking Engineer has reviewed and accepted for conformance with the DB Documents and compliance to the design intent for non-Qualified Products. Upon completion of GDOT’s review, GDOT’s red ink review stamp will signify an officially reviewed shop drawing and will state either Released for Construction or Released for Construction as Noted.
3.3.8.4.4  DB Team-Originated Design
Submit shop drawings and applicable calculations to the Shop Drawing Checking Engineer for review, and ensure that each sheet of the shop drawings and the cover sheet of the calculations are signed and sealed by the Shop Drawing Engineer.

3.3.8.4.5  Temporary Works
For construction affecting public safety, submit shop drawings and the applicable calculations for the design of special erection equipment, false-work, scaffolding, etc. to the Shop Drawing Checking Engineer, and ensure that each sheet of the shop drawings and the cover sheet of the applicable calculations is signed and sealed by the Shop Drawing Engineer.

3.3.8.4.6  Formwork and Scaffolding
The DB Team is solely responsible for the safe installation and use of all formwork and scaffolding. GDOT does not require any formwork or scaffolding submittals unless such work would be classified as construction affecting public safety.

3.3.8.4.7  Other Miscellaneous Design and Structural Details
Submit shop drawings and the applicable calculations to the Shop Drawing Checking Engineer, and ensure that each sheet of the shop drawings and the cover sheet of the applicable calculations is signed and sealed by the Shop Drawing Engineer.

3.3.8.5  Processing of Shop Drawings
3.3.8.5.1  Responsibility for Accuracy and Coordination of Shop Drawings
Coordinate, schedule, and control all submittals, with a regard for the required priority, including those of the various subcontractors, suppliers, and GDOT, to provide for an orderly and balanced distribution of the work. Also coordinate, review, date, stamp, accept, and sign all shop drawings prepared by the DB Team, Contractors, or DB Team-Related Entities (subcontractor, fabricator, supplier, etc.) prior to submitting them to GDOT for review. Submittal of the drawings confirms verification of the work requirements, units of measurement, field measurements, construction criteria, sequence of assembly and erection, access and clearances, catalog numbers, and other similar data. Indicate on each series of drawings the specification section and page or drawing number of the RFC plans to which the submission applies, indicate on the shop drawings all changes from the RFC drawings, and itemize all changes in the letter of transmittal. Likewise, whenever a submittal conforms to the RFC plans, clearly state so in the transmittal letter. Schedule the submission of shop drawings to allow a GDOT review period as specified in the DB Documents. The review period commences upon GDOT’s receipt of the valid submittal or re-submittal and terminates upon the transmittal of the submittal back to the DB Team. The DB Team is discouraged from transmitting voluminous submittals of shop drawings at one time. For submittals transmitted in this manner, allow for additional review time. Only shop drawings distributed by GDOT with the red ink stamps are valid and all Work that the DB Team performs in advance of GDOT’s release of shop drawings will be at the DB Team’s risk.
3.3.8.5.2 Scope of Review by the Shop Drawing Checking Engineer

The Shop Drawing Checking Engineer’s review of the shop drawings is for conformity to the requirements of the DB Documents and to the intent of the design. The Shop Drawing Checking Engineer’s review of shop drawings, which includes means, methods, techniques, sequences, and construction procedures, is limited to the effects on the permanent works. The Shop Drawing Checking Engineer’s review of submittals, which includes means, methods, techniques, sequences, and construction procedures, does not include an in-depth check for the ability to perform the Work in a safe or efficient manner.

3.3.8.5.3 Special Review by the Shop Drawing Checking Engineer

For construction affecting public safety, the Shop Drawing Checking Engineer will make an independent design review of all relevant shop drawings and similar documents. Do not proceed with construction of the permanent works until receiving the Shop Drawing Checking Engineer’s approval. Send a copy of the approval letter to GDOT. The review of these shop drawings is for overall structural adequacy of the item to support the imposed loads and does not include a check for economy, efficiency, or ease of construction.

3.3.8.6 Other Requirements for Shop Drawings for Bridges

3.3.8.6.1 Shop Drawings for Structural Steel and Miscellaneous Metals

Furnish shop drawings for structural steel and miscellaneous metals. Ensure shop drawings consist of working, shop, and erection drawings, welding procedures, and other working plans showing details, dimensions, sizes of material, and other information necessary for the complete fabrication and erection of the metal work.

3.3.8.6.2 Shop Drawings for Concrete Structures

Furnish shop drawings for concrete components that are not cast-in-place and are not otherwise exempted from submittal requirements, also furnish shop drawings for all details that are required for the effective prosecution of the concrete work and are not included in the DB Documents such as special erection equipment, masonry layout diagrams, and diagrams for bending reinforcing steel, in addition to any details required for concrete components for the permanent work.

3.3.8.6.3 Special Construction Submittals

No requirements.

3.3.8.6.4 Shop Drawings Requiring Railroad Coordination

No requirements.

3.3.8.6.5 Modifications on Construction

Where GDOT allows the DB Team to make modifications to the permanent works for the purposes of expediting the DB Team’s chosen construction methods, submit proposals to the
EOR for review and approval prior to modifying the works. Submit proposals for minor modifications under the shop drawing process. Indicate on all drawings the changes from the DB Documents and itemize all Change Requests in the letter of transmittal. GDOT will require additional submittals for major modifications. Minor modifications are those items that, in GDOT’s sole discretion, do not significantly affect the quantity of measured Work, or the integrity or maintainability of the structure or its components (for example, adjusting concrete dimensions, substituting steel plate sizes, changing reinforcing bar size and spacing, etc., all within the acceptable limits of the design). Major modifications are any modifications that, in the sole opinion of GDOT, significantly affect the quantity of measured Work, or the integrity or maintainability of the structure or its components; for example, substituting alternative beam sizes and spacings, changing material strength or type, and the like. Provide signed and sealed revised sheets to GDOT for any required revisions to the Released for Construction plans prior to submitting shop drawings. GDOT’s decision on the delineation between a minor and a major modification and the disposition of a proposal is final.

3.3.9 Release for Construction Documents

Provide sufficient review and revision time in the schedule and account for possible multiple re-submittals of Final Plans to secure a final Release for Construction prior to starting construction on any particular Element of the Work. Construction cannot proceed on any of the Work until the design Submittal has been reviewed, accepted, and Released for Construction.

For final Submittals, after updating the documents to resolve all comments (as applicable) and receiving written notice from GDOT that the drawings or Submittal are Released for Construction, stamp the accepted set Released for Construction and distribute copies to GDOT within three Business Days.
4 ENVIRONMENTAL

4.1 General
Comply with all Environmental Law and policies set forth by the federal, state, and local agencies with jurisdiction over the construction activities associated with the Project and as described in the approved Environmental Document and permits. Follow all pertinent policies and procedures as described in the 23 CFR 771, O.C.G.A. 12-16-1, and the most recent version of the GDOT Environmental Procedures Manual.

The Environmental Documents have been approved for this Project.

4.2 Administrative Requirements

4.2.1 Standards
Conduct activities in this Section 4 in accordance with Environmental Law, GDOT's Environmental Procedures Manual, other Attachment 3-1 (Manuals), and other provisions of the DB Documents.

4.2.2 Personnel Requirements

4.2.2.1 Environmental Compliance Manager
Designate an Environmental Compliance Manager (ECM) who will work through an environmental team (ET), as detailed in this Section 4.2.2, to prevent, minimize, and/or correct any violation of or noncompliance with Environmental Approvals. The ET may include the following persons (some persons may serve multiple roles, provided the required qualifications are met):

- NEPA Specialist
- Archeologist
- Historian
- Natural Resource Biologist
- Water Quality Specialist
- Air Quality Specialist
- Noise Specialist
- Hazardous Materials Manager
- Worksite Erosion Control Supervisor (WECS)

The ECM reports and coordinates all issues directly with GDOT and the DB Team's Project Manager. In the event the ECM, in consultation with the DB Team's Project Manager and GDOT, is unable to reach satisfactory resolution of environmental issues, the ECM will provide written notification to the DB Team and GDOT outlining the concerns, actions taken in attempt to correct the concerns, and recommend a course of action.

The ECM reports immediately to GDOT and DB Team any violation or non-compliance and includes with any such report the appropriate recommendations for corrective action including stoppage of Work.
The ECM coordinates with GDOT, the DB Team, and appropriate Governmental Entities. The ECM also submits all necessary environmental documentation and monitoring reports to the appropriate Governmental Entities and when applicable, through GDOT, to the extent necessary to maintain compliance with applicable Environmental Approvals.

The ECM will be an employee or subcontractor of the DB Team. The DB Team will not have the ability to relieve the ECM of his or her duty without the written approval of GDOT. Should the DB Team desire to replace the ECM, submit the résumé of a replacement candidate. The replacement candidate will be available to the Project within 30 days after delivery of GDOT’s written acceptance. In the absence of the ECM, the DB Team’s Hazardous Materials Manager may act as an interim ECM with GDOT approval.

Qualifications: The ECM candidate must have at least five years of experience successfully managing environmental compliance of a similar type of project as the Project. This person or firm must be prequalified by GDOT. Ensure all costs associated with the ECM are included in the Proposal. The qualifying experience required of an ECM candidate must include the following:

1. Has developed and managed a storm water pollution prevention plan
2. Has developed and managed a hazardous substance and petroleum products management plan
3. Has implemented environmental mitigation plans
4. Has provided environmental and personal protection training
5. Has monitored compliance with Section 404 Permit conditions

The ECM’s qualifying experience must demonstrate familiarity with the following:

1. The scope and terminology of ASTM E 1527-05, Standard Practice for Environmental Site Assessment Process
2. Provisions of the NPDES Construction General Permit (GAR1000002)
3. Requirements of Section 404 and permit provisions

4.2.2.2 Reserved
4.2.2.3 Reserved
4.2.2.4 NEPA Specialist

The ECM designates a NEPA Specialist to provide expertise in NEPA laws, regulations, and policies during the course of the Work. The NEPA Specialist will be able to address environmental justice (EJ) issues related to the Project, if applicable.

The ECM designates personnel if a need arises for renewed activities to comply with environmental laws.

Qualifications: The NEPA Specialist meets the certification requirement of GDOT Transportation Planning Prequalification Category 1.06(a) NEPA Documentation.
4.2.2.5 Cultural Resource Management Personnel
The ECM designates an Archeologist, Architectural Historian, Historian, and/or Historical Architect to provide expertise in monitoring impacts to cultural resources during the course of the Work.

The ECM designates personnel if a need arises for renewed activities to comply with cultural resources laws.

Qualifications: The Cultural Resource Management Personnel meets the certification requirement of GDOT Transportation Planning Prequalification Category 1.06(b) History and 1.06(f) Archaeology. Cultural Resource Management Personnel must meet professional standards under regulations developed by the Secretary of the Interior, found at http://www.nps.gov/history/local-law/Prof_Qual_83.htm.

4.2.2.6 Natural Resource Biologist
The ECM designates a Natural Resource Biologist to provide expertise in monitoring impacts on wildlife and the natural environment during the course of the Work. The ECM designates personnel if a need arises for renewed activities to comply with natural resources laws.

Qualifications: The Natural Resource Biologist must meet the certification requirement of GDOT Transportation Planning Prequalification Categories 1.06(e).

4.2.2.7 Water Quality Specialist
The ECM designates a Water Quality Specialist to provide expertise in permitting (USACE Section 404 and GA EPD Buffer Variance), state and federal waters delineations, storm water pollution prevention, and the protection of jurisdictional state and federal waters during the course of the Work.

Qualifications: The Water Quality Specialist must have verifiable experience implementing Water Quality Certification Plans and be able to demonstrate a working knowledge of the National Pollutant Discharge Elimination System and MS4 permit requirements applicable to the Project. The Water Quality Specialist must meet the certification requirements of GDOT Transportation Planning Prequalification Category 1.06(e).

4.2.2.8 Air Quality Specialist
The ECM designates an Air Quality Specialist to provide expertise for air quality studies during the course of the Work, if necessary.

Qualifications: The Air Quality Specialist must meet the certification requirement of GDOT Transportation Planning Prequalification Category 1.06(c).

4.2.2.9 Noise Specialist
The ECM designates a Noise Specialist to provide expertise for noise studies during the course of the Work, if necessary.

Qualifications: The Noise Specialist must meet the certification requirement of GDOT Transportation Planning Prequalification Category 1.06(d).
4.2.2.10 Hazardous Materials Manager

The ECM designates a Hazardous Materials Manager to provide expertise in the safe handling of Hazardous Materials required to perform the Work and those that may be discovered/impacted during the term of the Agreement. The Hazardous Materials Manager conducts appropriate activities such as the following:

1. Schedule and/or conduct training for the DB Team’s employees
2. Verify all employee certifications prior to and required for any handling of Hazardous Materials
3. Maintain records of all incidents involving Hazardous Materials and notify the ECM, GDOT, and appropriate authorities in writing of any such incidents

Qualifications: The Hazardous Materials Manager must meet the certification requirements of GDOT Soils, Foundation and Material Testing, Hazardous Waste Site Assessment Studies 6.05, and be a qualified professional with 40 hours of HAZWOPER certification. In addition, the Hazardous Material Manager must have at least five years of experience on similar projects in the following areas:

1. Development of investigative work plans, site investigation reports, and remedial action plans or equivalent reports necessary and acceptable to the EPA in material discovery and remediation efforts of Hazardous Materials
2. Investigation and remediation of Hazardous Materials following GDOT Environmental Procedures Manual guidelines

4.2.2.11 Worksite Erosion Control Supervisor (WECS)

Before beginning Work, designate a Worksite Erosion Control Supervisor (WECS) to initiate, install, maintain, inspect, and report the condition of all erosion control devices as described in GDOT Standard Specifications Sections 160 through 171 or in the DBA and erosion, sedimentation, and pollution control plan (ESPCP) documents. The designee must submit their qualifications on the GDOT provided resume form for consideration and approval. The DB Team may utilize additional persons having WECS qualifications to facilitate compliance, however, only one WECS will be designated at a time.

The WECS and alternates must:

1. have at least one year of experience in erosion and sediment control, including the installation, inspection, maintenance and reporting of BMPs;
2. successfully completed the Georgia Soil and Water Conservation Commission Certification Course Level IA and GDOT’s WECS Certification Course; and
3. provide phone numbers where the WECS can be located 24 hours per day, seven days per week.

The WECS’ duties include the following:

1. Be available or have an approved representative available 24-hours a day and have access to the equipment, personnel, and materials needed to maintain erosion control and flooding control.
2. Inform GDOT in writing whenever the alternate WECS assumes project responsibilities.
3. Ensure that erosion control deficiencies are corrected within 72 hours or immediately during emergencies. Deficiencies that interfere with traffic flow, safety, or downstream turbidity are to be corrected immediately.
4. During heavy rain, have the construction area patrolled day and night, any day of the week to quickly detect and correct erosion or flooding problems before they interfere with traffic flow, safety, or downstream turbidity.
5. Be on the site within three hours after receiving notification of an emergency prepared to positively respond to the conditions encountered. GDOT may handle emergencies without prior notice to the DB Team. GDOT will recover costs for emergency maintenance work according to GDOT Standard Specifications Subsection 105.15, Failure to Maintain Roadway or Structures.
6. Maintain and submit for the Project records, as-built Erosion and Sedimentation Control Plans that supplement and graphically depict EC-1 reported additions and deletions of BMPs. The as-built plans are to be accessed and retained at a GDOT facility at all times.
7. The WECS must maintain a current certification card for the duration of the Project. Recertification of the WECS is required prior to the expiration date shown on the Certification card in order to maintain certification and the WECS position for the Project.
8. Ensure that both the WECS and the alternate meet the criteria of this Section 4.2.2.11.

Failure of the WECS or alternate to perform the duties specified in the Contract, or whose performance has resulted in a citation being received from a State or Federal Regulatory Agency (e.g., the Georgia Environmental Protection Division) will result in one or more of the following:

1. Suspension of the WECS’ certification for a period of not less than 30 days
2. Removal of the Contractor’s Project superintendent in accordance with GDOT specification subsections 105.05 and 108.05 for a period not less than 14 days
3. GDOT-wide revocation of the WECS certification for a period of 12 months
4. Removal of the Contractor’s Project superintendent in accordance with GDOT Standard Specifications subsections 105.05 and 108.05

4.3 Environmental Approvals

4.3.1 Responsibilities Regarding Environmental Documents

The DB Team is responsible for coordination with GDOT and other required approval agencies to ensure that commitments made during the environmental review are being met. The DB Team is responsible to reassess Project impacts and for additional associated costs incurred due to any changes in the Project impacts as described in the approved Environmental Document. This may require resubmittal of environmental studies for approval by applicable agencies.

GDOT is responsible for completing and resubmitting environmental documentation. The DB Team is not allowed to complete the environmental documentation or reevaluation. The DB
Team is responsible for providing all necessary information and data to complete the environmental documentation or reevaluation. Required items may include the following:

1. Text outlining changes (all design and environmental) from costing plans and justification for all changes.

2. Full construction means and methods for the entire project and associated timing detail.

3. Plans showing final impacts to Environmentally Sensitive Areas (ESA)s including the following sections, as appropriate: 1, 13, 15, 19, 20, 23, 24, 29, 30, 35 (partial set - profile and elevation, column and footing detail), 50, and 54. Note that additional sections may be required for completion of the environmental documentation or reevaluation, as requested by the GDOT NEPA analyst or GDOT environmental specialist.

4. Provide updates and documentation regarding the status or completion of commitments on the Environmental Commitment Table (ECT).

5. Updated impacts to all environmental resources associated with the project.

Execute the Environmental Commitments required by the approved Environmental Documents, DB Documents, Governmental Entities, Governmental Approvals, and all applicable federal and State Law.

Limits of the Existing and Proposed Right of Way will be described in the approved Environmental Document.

Ensure Work complies with approved Environmental Documents, permits, and compliance requirements for any additional actions throughout the Term of the DB Documents. Monitor and document Work activities so that documents providing evidence for compliance are available to FHWA and Governmental Entities (as applicable) and GDOT for inspection at any time. Evidence of compliance activities may include photo documentation and other appropriate methods to demonstrate compliance. Execute the Environmental Mitigation Plan, which lists responsible parties for Environmental Commitments detailed in the approved Environmental Document as agreed to by GDOT and/or other approval agencies.

Consider the use of environmentally sustainable practices and/or materials in the development of the Project.

Environmental Documents were prepared and approved by GDOT prior to the Effective Date. During the Term, such approvals may require re-evaluation, amendment, or supplement as the Work progresses or in order to accommodate actions not identified in the approved Environmental Document or not covered specifically by existing resource agency coordination and permits. The DB Team is responsible to validate and provide design information to support additional environmental studies (cultural resources, ecology, aquatics, traffic, noise, and/or air) conducted by GDOT or on behalf of GDOT by others. Comply with the Environmental Commitments identified in the approved Environmental Document within the final limits of the Project and subsequent approved Environmental Documents as updated to incorporate the DB
Team’s Conceptual Layout Plan of Project or Design Documents or due to regulatory or policy changes. Follow GDOT policies and procedures when conducting these activities for the Project.

Any changes to the Project as described in the NEPA Approval may require the DB Team to reassess impacts and submit information to GDOT for incorporation into reevaluation reports and studies. Follow all pertinent policies and procedures as described in the 23 CFR 771, 23 CFR 772, 23 CFR 774, and the GDOT Environmental Procedures Manual. GDOT will provide the costs to prepare and finalize the NEPA Re-evaluation documents for FHWA. The DB Team is responsible to prepare and pay for supporting documentation for any design changes proposed by the DB Team that differ from the NEPA Approval at the time of the Proposal Due Date.

If the DB Team’s Conceptual Layout Plan of the Project or Design Documents deviate from the plan set incorporated into the approved Environmental Documents, then GDOT and/or Governmental Entities will need to conduct an assessment to determine whether the approved Environmental Documents remain valid. Provide information to support evaluation of the deviations from the plan set incorporated into the approved Environmental Documents. Facilitate a meeting with GDOT within 45 days of NTP 1 to discuss potential deviations from the approved Environmental Document. The following terms define GDOT and/or FHWA required documentation needed to assess impacts to the approved Environmental Document:

1. **No Change Reevaluation:** No design or regulatory changes have occurred since the last approved Environmental Document. As applicable, GDOT will utilize document procedures following the Memorandum of Agreement with FHWA dated July 19, 2016.

2. **Change Reevaluation (design modifications):** The Conceptual Layout Plan for the Project or Design Documents contain modifications to the design in the plan set incorporated into the approved Environmental Documents; the Project corridor in the area of the changes (or as applicable) must be considered for additional or reduced environmental impacts. There may be a need for additional agency coordination as a result of the design modifications. As applicable, GDOT will utilize document procedures following the Memorandum of Agreement with FHWA dated July 19, 2016.

3. **Change Reevaluation (regulatory/policy changes):** Changes in Law or regulatory practice may require additional survey or technical analysis, environmental condition changes over time, and associated agency coordination. The additional analysis may be required regardless of design changes, construction staging, etc. (There may be no action taken by the design team that would trigger the additional technical analysis).

Ensure compliance with the conditions and schedules set forth in amendments to any approved Environmental Documents due to deviations in the plan set incorporated into the approved Environmental Documents in the Conceptual Layout Plan for the Project and/or the Design Documents.

Assume all risk arising out of or related to deviations from the plan set incorporated into the approved Environmental Documents. The DB Team is encouraged to minimize deviations from the plan set incorporated into the approved Environmental Documents. The DB Team is
responsible to provide all information reasonably required to support evaluation of deviations from the plan set incorporated into the approved Environmental Documents and to comply with all policies and procedures of GDOT and Governmental Entities having jurisdiction over the Project. GDOT is responsible for all coordination of environmental studies with appropriate Governmental Entities. The DB Team is responsible to provide GDOT with the information reasonably required for coordination with Governmental Entities.

Implement the commitments per the Environmental Document and Environmental Commitments and adhere to the Special Provisions 107.23.G and 107.23.H requirements. The DB Team is responsible for the purchase of all required mitigation credits. This supporting information is listed in Table 4-1:

**Table 4-1: Environmental Documentation Contained in Section 4 Attachments**

<table>
<thead>
<tr>
<th>Attachment</th>
<th>Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment 4-1</td>
<td>Environmental Commitments Table (includes identification of responsible parties)</td>
</tr>
<tr>
<td>Attachment 4-2</td>
<td>Special Provision 107.23.H</td>
</tr>
<tr>
<td>Attachment 4-3</td>
<td>Special Provision 107.23.G</td>
</tr>
</tbody>
</table>

### 4.3.2 GDOT Review and Approval of Environmental Documents and Permits

The approval time frames for Environmental Documents are listed in Table 4-2 (GDOT-Led Environmental Preparation and Approval) and Table 4-3 (DB Team-Led Environmental Permit Approval). The tables below do not include any required public comment period and time for responding to the public comments. Upon receipt of Final Plans covering the technical report study area established in the NEPA Approval, GDOT will be responsible for developing the technical report addenda and NEPA Approval reevaluations as provided in Table 4-2 and Table 4-3. GDOT will coordinate and provide approved documentation to the appropriate Governmental Entities. The review and issuance time periods listed in Table 4-2 and Table 4-3 are per agency and may not occur concurrently. GDOT reserves the right to request revisions to the tables as needed to meet Governmental Entity approval. The timeframe for the development of the technical studies and NEPA document reevaluation are subject to the extent of change proposed by the DB Team; therefore, GDOT reserves the right to modify schedule durations as appropriate after receipt of the DB Team’s Preliminary Plans.

**Table 4-2: GDOT-Led Environmental Preparation and Approval**

<table>
<thead>
<tr>
<th>Document*</th>
<th>Governmental Entity Approval Time Frame</th>
<th>Reviewing Governmental Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Document Reevaluation Approval</td>
<td>Prepare Document: 30 days (from approval of Technical Report Addenda)</td>
<td>GDOT</td>
</tr>
<tr>
<td>Document*</td>
<td>Governmental Entity Approval Time Frame</td>
<td>Reviewing Governmental Entity</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Revise Document: 7 days (after each GDOT review period)</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 1: 30 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 2: 14 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 1: 30 days</td>
<td>FHWA</td>
<td></td>
</tr>
<tr>
<td>Review period 2: 14 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Ecology Report and Addendum: 30 days (from receipt of DB team’s preliminary design plans, change description, and calculated impacts to resources)</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Revise Addendum: 7 days (after each GDOT review period)</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 1: 30 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 2: 14 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>FHWA</td>
<td></td>
</tr>
<tr>
<td>45 days (informal Section 7, after FHWA review)</td>
<td>USFWS</td>
<td></td>
</tr>
<tr>
<td>135 days</td>
<td>USFWS</td>
<td></td>
</tr>
<tr>
<td>(for formal Section 7, after FHWA review)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 days</td>
<td>USFWS</td>
<td></td>
</tr>
<tr>
<td>(for protected species - for Fish and Wildlife Coordination Act concurrence, after FHWA review)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 106 AOE Addendum: 21 days (from receipt of DB team’s preliminary design plans, change description, and calculated impacts to resources)</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 1: 30 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Review period 2: 14 days</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>Revise AOE Addendum: 7 days (for each review period)</td>
<td>GDOT</td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>State Historic Preservation Officer (SHPO)</td>
<td></td>
</tr>
<tr>
<td>Document*</td>
<td>Governmental Entity Approval Time Frame</td>
<td>Reviewing Governmental Entity</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Public involvement for noise barrier voting</td>
<td>Logistics, Fieldwork, voting, ballot, tally, and dry run: 45 days (after approved validation of noise wall effectiveness resulting from relocation of walls proposed by DB team)</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>15 days</td>
<td>FHWA</td>
</tr>
<tr>
<td>Noise Report and Addendum</td>
<td>Prepare Document: 30 days (from acceptance of Preliminary Plans, approval of horizontal/vertical roadway plans for Traffic Noise Model (TNM))</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>Review period 1: 30 days</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>Review period 2: 14 days</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>Revise noise report: 7 days (after each GDOT review period)</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>FHWA</td>
</tr>
<tr>
<td>Air Quality Report and Addendum</td>
<td>Prepare Document: Memo to file for no change: 7 days</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>Revise air memo: 7 days</td>
<td>GDOT</td>
</tr>
<tr>
<td>Traffic Report and Addendum</td>
<td>Prepare Document: 60 days (following major project changes, such as begin/end limits or operational changes)</td>
<td>GDOT</td>
</tr>
<tr>
<td></td>
<td>Review 1: 45 days</td>
<td>GDOT or FHWA (per Projects of Division Interest (PoDI) Agreement)</td>
</tr>
<tr>
<td></td>
<td>Review 2: 15 days</td>
<td>GDOT or FHWA (per Projects of Division Interest (PoDI) Agreement)</td>
</tr>
<tr>
<td></td>
<td>Revise traffic document: 14 days</td>
<td>GDOT</td>
</tr>
</tbody>
</table>

*FHWA intends to publish a notice in the Federal Register following NEPA Approval and the Section 404 permit, as applicable. If such a notice is published, claims seeking judicial review of this federal action will be barred unless such claims are filed within 150 days after the publication date of the Federal Register notice for each federal action (e.g., NEPA Approval and/or Section 404 permit). At minimum, the period of time may only be limited by the Administrative Procedures Act of 1946 (APA) (5 United States Code [USC] Section 701-706).

Assume responsibility for preparing required permits and permit modifications as stated in Table 4-3 (DB Team-Led Environmental Permit Approval) and will pay all fees required. Provide to
GDOT copies of receipts of delivery of the applications and paid fees to the permitting agencies. For Notices of Termination (NOT), provide a copy of the acknowledgement of receipt of the NOT by EPD.

Assume responsibility to obtain all other permits not included in Table 4-3 to meet the requirements of the DB Documents. GDOT is responsible for reviewing the permits and permit modifications, and submitting to the appropriate Governmental Entities, unless the applicant is listed as the DB Team. Documentation not meeting current submission standards or requirements of Governmental Entities will be returned to GDOT and revised by a qualified independent consultant approved by GDOT at DB Team’s cost. GDOT reserves the right to review, comment on, require revisions to, and reject for resubmission documentation submitted to GDOT by the independent consultant or the DB Team for environmental compliance or approval. The agency review time frame for permits is specified in Table 4-3. The review and issuance time periods listed in Table 4-3 for DB Team-led approvals do not apply to any revisions of the new permit applications proposed by the DB Team’s Conceptual Layout Plan of Project.

Obtain photogrammetric and/or geographic information system (GIS) data for the Project that depict any impaired waters as listed by EPD. Conduct surveys for information not available from other sources.

### Table 4-3: DB Team-Led Environmental Permit Approval

<table>
<thead>
<tr>
<th>Permit Required</th>
<th>Agency Review and Issuance Time Period (Calendar Days)</th>
<th>Listed Applicant</th>
<th>Preparer of Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States Army Corps of Engineers (USACE) Section 404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 404 General Permit&lt;sup&gt;1&lt;/sup&gt;</td>
<td>90</td>
<td>GDOT</td>
<td>DB Team</td>
</tr>
<tr>
<td>Section 404 Individual Permit&lt;sup&gt;2&lt;/sup&gt;</td>
<td>240</td>
<td>GDOT</td>
<td>DB Team</td>
</tr>
<tr>
<td>Subsurface testing of all Underground Storage Tanks and Hazardous Materials</td>
<td>150</td>
<td>GDOT</td>
<td>DB Team</td>
</tr>
<tr>
<td>National Pollutant Discharge Elimination System (NPDES) Construction General Permit (GAR100002), Notice of Intent (NOI)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>14</td>
<td>DB Team</td>
<td>DB Team</td>
</tr>
<tr>
<td>NPDES Construction General Permit (GAR100003), Notice of Intent (NOI)&lt;sup&gt;3&lt;/sup&gt; for Georgia Work</td>
<td>14</td>
<td>DB Team</td>
<td>DB Team</td>
</tr>
<tr>
<td>Georgia Stream Buffer Variance</td>
<td>150</td>
<td>GDOT</td>
<td>DB Team</td>
</tr>
</tbody>
</table>

<sup>1</sup> This applies to Section 404 permitting and if additional impacts are incurred after the permit has been approved, a new permit that covers all impacts is required and the original review
times apply to the new permit. No work is authorized in the areas of the previous permit until the new permit is approved and construction authorization is received.

2 This applies to Section 404 permitting impacts which may exceed the cumulative threshold for a General Permit.

3 Information on the permit including Notice of Intent (NOI) and Notice of Termination (NOT) and changes that went into effect on August 1, 2018 can be found at https://epd.georgia.gov/npdes-construction-storm-water-general-permits. A Fact Sheet on the permits can be found at https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/Factsheet - NPDES Construction General Permits - May 2018.pdf

4 The review and issuance time periods will commence once a completed permit package that complies with the requirements of the DB Documents is accepted by GDOT and submitted to the issuing agency and end once the permit is issued by the appropriate Governmental Entity. Therefore, schedule several review periods prior to agency submittal to ensure proper planning to accomplish the entire process for each required permit. Each initial GDOT review period is 30 days. Should the Submittal not be complete or rejected as provided in Section 3 (Design and Submittals), each subsequent review period will be 15 days and is excluded from the timeframe in Table 4-3 above.

The above permits and review times do not contemplate offsite plant or other offsite activity that the DB Team may propose for use in construction or other non-permanent construction.

Assume responsibility for payment of any fees to obtain any necessary permits or approvals, of any fines incurred as a result from failure to obtain any necessary permits or approvals, and/or for any fines levied as a result of inadequate or improper installations.

**4.3.3 Comprehensive Environmental Protection Plan**

Adopt a proactive approach for overseeing and inspecting environmental Work during construction to help guard against unanticipated impacts to the environment. Comply with the scope of environmental commitments (Environmental Commitments Table) from the Environmental Documents, including the NEPA document, Special Provision 107.23.H, environmental permits, and other environmental approvals.

Develop, execute, and maintain a Comprehensive Environmental Protection Plan (CEPP) for the Work to ensure environmental compliance with all applicable environmental laws and commitments. Ensure the CEPP obligates the DB Team to protect the environment and document the measures taken during the performance of the Work to avoid, minimize, and mitigate impacts on the environment from the design and construction activities of the Project. Ensure the CEPP effectively demonstrates in detail the DB Team’s knowledge of all applicable Project-specific Environmental Approvals, issues, and commitments, as well as applicable environmental laws, as set forth in this Section 4 and elsewhere in Volume 2. It must also describe the processes to follow during the course of the Work to comply with those Environmental Approvals, issues, and commitments and laws, as well as the documentation required to validate compliance. Ensure all monitoring and reporting activities are concise and consistent throughout the term of the Agreement as applicable to the activities being performed.
and are in accordance with the requirements set forth in the environmental laws. Ensure the CEPP also effectively describes the quality control and assurance measures that the DB Team will implement to verify the compliance of the CEPP with all applicable environmental laws. Ensure the CEPP establishes a goal of zero environmental violations during the performance of all Work activities while meeting each regulatory agency's permitting requirements and sets forth detailed processes for rectifying such violations in an appropriate and timely manner should violations occur.

4.3.4 Hazardous Materials Management Plan

Prepare a Hazardous Materials Management Plan (HMMP) for the safe handling, storage, treatment, and/or disposal of Hazardous Materials, whether encountered at or brought onto the Project Site by the DB Team, a third party, or otherwise, during the term of the Agreement. Submit the final HMMP to GDOT for review and approval within 60 days of NTP 1; approval of the Plan by GDOT is be a condition of commencement of Construction Work. Follow the federal Environmental Protection Agency (EPA), EPD guidelines, and GDOT Policies and Procedures for Underground Storage Tank (UST), and Hazardous Waste (HW) Site Investigation Procedure.

Ensure the HMMP includes procedures compliant with all applicable environmental laws and the following at a minimum:

1. Updated Material Safety Data Sheets (MSDS) for all chemicals to be used on the Project, per OSHA requirements, for the term of the Agreement
2. Designated individuals responsible for implementation of the plan
3. Procedures for identifying and documenting potential contaminated sites that might impact Project development
4. Procedures for mitigation of known contaminated sites anticipated to impact construction
5. Procedures for mitigation of unanticipated contaminated sites encountered during construction
6. Procedures for developing a detailed Spill Response Plan for the term of the Agreement
7. Process for training personnel for responding to and mitigating incidents involving contamination or waste
8. Provisions for appropriate storage and disposal of all waste encountered or disposed of on the Project for the term of the Agreement
10. Procedures for preparing Underground Storage Tank/Hazardous Waste (UST/HW) site investigation reports, and package submittals to the Environmental Testing Unit of the Office of Materials and Testing (OMAT) for review in the event that Hazardous Materials are discovered during construction
11. Identification and contact information for designated responsible individuals

Ensure the HMMP includes provisions for making all workers aware of the potential Hazardous Materials to which they may be exposed, limiting Contractors and other Site workers' exposure to Hazardous Materials and providing all necessary personal protection equipment to protect
workers from exposure. Ensure the HMMP requires the DB Team to provide any non-DB Team personnel who visits the Project area with the appropriate personal protection equipment.

Ensure the HMMP requires that all personnel of the DB Team-Related Entities handling Hazardous Materials be trained and certified at least to the minimum requirements established under the current guidelines of OSHA 1910.120 (HAZWOPER Training).

Further, the HMMP must also include procedures for ensuring that all applicable certifications, licenses, authorizations, and Governmental Approvals for DB Team personnel handling Hazardous Materials are current and valid through the duration of the Work.

### 4.4 Deliverables

As indicated in this Section 4 and in Section 3 (Design and Submittals).
5 RESERVED

No requirements.
6 UTILITY ADJUSTMENTS

6.1 General
By Georgia Statutes, Utilities, whether publicly or privately owned, aerial or underground, are permitted by GDOT to be accommodated within the ROW. To this end, make every effort to avoid Utilities. Design/construction techniques that minimize or avoid Utility conflicts may involve increased upfront costs; however, those costs may be offset by savings during construction, in addition to the total cost savings for the Project, GDOT, and the respective Utility Owners. This Section 6 establishes procedures and requirements for Utility Adjustments including such processes as coordination with Utility Owners, administration of engineering, construction, other activities necessary for Utility Adjustments and required documentation.

6.2 Administrative Requirements

6.2.1 Standards

6.2.2 Communications

6.2.2.1 Communication with Utility Owners: Meetings and Correspondence
Hold meetings and otherwise communicate with each Utility Owner, Subcontractor, Utility Owner’s pre-approved design consultant, and Utility Owner’s construction contractor as necessary to efficiently accomplish the Utility Adjustments in compliance with the DB Documents. GDOT may participate in these meetings if requested by the Utility Owner or the DB Team or otherwise as GDOT deems appropriate.

Provide a notice and an agenda for the meeting separately to GDOT and the appropriate Utility Owner at least seven days in advance of each scheduled meeting. Prepare and distribute minutes of all meetings within seven days of the meeting with Utility Owners and keep copies of all correspondence with any Utility Owner.

Coordinate with Utility Companies for early coordination of Utility Adjustments.

6.2.2.2 Real Property Matters
GDOT will determine the ROW required for construction of the Project and will endeavor to provide adequate ROW for the existing or typical Utility facilities that will be permitted to be accommodated within that ROW. Services must be performed in accordance with Section 7 (ROW – Additional Properties).
Provide the services described below in connection with existing and future occupancy of property by Utilities.

1. **Determination of Utility ROW and Easement**: The determination as to the need for replacement ROW or easement for Utilities will be made as follows:
   a. If additional ROW or easement will be required for the construction of the Project, coordinate with the Utility Owner to verify such circumstances and obtain a written statement as to whether the Utility Owner desires that the DB Team acquire such additional ROW or easement or the Utility Owner plans to acquire its own ROW or easement.

2. **Interest to be Acquired**: If the Utility Owner desires for the DB Team to acquire replacement ROW or easement, step (a) must be followed. If Utility Owner intends to acquire its own ROW or easement step (b) must be followed.
   a. If the Utility Owner desires for the DB Team to acquire replacement ROW or easement:
      i. Recommend to GDOT what interest will be required and the instrument (i.e., deed, quitclaim deed, easement limited agreement, etc.) to be used to acquire and/or transfer such interests. The recommendation must be reviewed and concurrence provided by GDOT.
      ii. An Easement Limited Agreement (ELA) may be utilized to transfer rights in accordance with UAM Section 4.2.F.2 and as determined by GDOT. GDOT will be responsible for the establishment of the ELA with the Utility Owner.
      iii. If the DB Team is unable to acquire the needed right of way or easement and request assistance from GDOT to acquire the needed right of way or easement, the DB Team will be required to reimburse GDOT for the costs in acquiring the right of way or easement. There will be no schedule relief for the DB Team if this occurs.
   b. If the Utility Owner intends to acquire its own ROW or easement:
      i. Obtain written notification from the Utility Owner of such a decision and include this in a Utility Owner’s Work Plan.
      ii. Notify the GDOT Project Manager of said decision and provide a copy of the Utility Owner’s Work Plan to GDOT.

3. **Methods of Acquisition**: The method of acquisition described in Section 4.1.C.6 of the UAM will apply.
   a. Adjustment on Projects:
      i. **Reimbursable Cases**: When the Utility Owner is entitled to reimbursement for the cost of acquisition of replacement right of way or easements, GDOT will request permission from the Utility Owner, which must be obtained in writing, to acquire necessary Utility right of way or easements concurrently with State Proposed State Acquired acquisitions. The Standard Utility Agreement (SUA) will include reasons for Utility Owner's desire to acquire the right of way or easement.
      ii. **Non-Reimbursable Cases**: If the cost of acquisition of replacement right of way or easement is not reimbursable, GDOT will, at the written request of the Utility Owner, acquire such right of way or easement under written agreement and the Utility Owner will reimburse GDOT for such cost in accordance with State Law.
Any acquisition by GDOT will comply with all requirements pertaining to GDOT’s acquisition of its own right of way and easement.

6.2.2.3 Documentation of Existing Utility Property Interests – Affidavits

For each Existing Utility Property Interest within the Existing Right of Way or Proposed Right of Way claimed by any Utility Owner, include an easement deed or an Affidavit of Property Interest in the applicable Utility Work Plan, with appropriate documentation of the Existing Utility Interest attached. Any such claim shall be subject to GDOT’s acceptance as part of the Utility Work Plan review. Except as otherwise directed by GDOT, prepare all Affidavits of Property Interest using the standard GDOT form.

6.2.2.4 Acquisition of Replacement Utility Property Interests

Each Utility Owner will be responsible for acquiring any Replacement Utility Property Interests necessary for its Utility Adjustments if the DB Team is not responsible as outlined in the MOU. For acquisitions that are not the responsibility of the DB Team, the DB Team shall have the following responsibilities:

1. Coordinate with, and provide the information to, each Utility Owner as necessary for the Utility Owner to acquire any Replacement Utility Property Interests required for its Utility Adjustments.

2. If any of the DB Team-Related Entities assists a Utility Owner in acquiring a Replacement Utility Project Interest, such assistance shall be by separate contract, and the DB Team shall ensure that the following requirements are met:
   a. The files and records must be kept separate and apart from all acquisition files and records for the Proposed Right of Way and Additional Properties on the Project.
   b. The items used in acquisition of Replacement Utility Property Interests (e.g., appraisals, written evaluations and owner contact reports) must be separate from the purchase of the Proposed Right of Way and Additional Properties on the Project.
   c. Any DB Team Related Entity personnel negotiating the acquisition of Replacement Utility Property Interests must be different from those negotiating the acquisition of Project Right of Way.

The DB Team is not responsible for Utility Owner condemnation proceedings.

6.2.2.4.1 Georgia Utility Permitting System (GUPS)

Ensure that each Utility Owner submits Utility permit requests through GUPS for the following:

1. Each Utility proposed to be relocated or installed within the Existing ROW, Proposed ROW and Additional Properties.

2. Each Utility proposed to remain in its existing location within the Existing ROW, Proposed ROW and Additional Properties.

6.2.2.4.2 Documentation Requirements

Prepare, negotiate (to the extent permitted by Section 6.2.2.2 (Real Property Matters), and obtain execution by the Utility Owner (and record in the appropriate jurisdiction, if applicable) all
agreements and deeds described in this section, including all necessary exhibits and information concerning the Project (e.g., reports, Plans, and surveys). Each agreement or deed will identify the subject Utility or Utilities by the applicable Utility Permit Number, and identify any real property interests by parcel number or highway station number, or by other identification acceptable to GDOT.

6.2.2.4.3 Record Keeping
Maintain design, construction and inspection, and other Utility related records to ascertain that Utility Adjustment Work is accomplished as required by the Design-Build Documents and the applicable Utility agreements.

6.3 Design Requirements

6.3.1 Memorandum of Understanding (MOU)
The allocation of responsibility for the Utility Adjustment work will be specified in the MOU.

GDOT has executed MOUs between GDOT and each Utility Owner. Copies of the MOUs can be found in the attachments. If a Utility is impacted by the Project and the impact requires a relocation of the Utility, refer to the executed MOU for the Party responsible for the cost of the relocations.

Ensure Utility Adjustments will occur either by coordinating the relocation with the Utility Owner self-performing the relocation work, performing the work with its own forces or by using the Utility Owner’s Pre-Approved Design Consultants or Contractors. See Attachment 6-2 (Memorandums of Understanding) for requirements related to coordination and relocations for all Utility owners within the Project Limits.

6.3.2 Responsibilities of the DB Team
Ensure all Utility Adjustments necessary to accommodate the Project.

6.3.2.1 DB Team Pre-Construction Coordination
Communicate, cooperate, and coordinate with GDOT, the Utility Owners, Utility Owner’s design consultants and construction contractors, property owners, local Governmental Entities, locally impacted businesses, and potentially affected third parties, as necessary for performance of the Utility Adjustment Work. Provide advance notification to all impacted local Governmental Entities, business and property owners for and planned disruption of service. Coordinate with GDOT for any public outreach for planned Utility disruptions as required. The DB Team is responsible for assisting in the preparation of all SUAs and Contract Item Agreements (CIA) as required. Utility agreement templates can be acquired from the State Pre-Construction Utility Manager. As part of the Pre-construction coordination, the DB Team is required to coordinate with all Utility permitting agencies within the Project limits to ensure that any Utility permits issued by any agency are reviewed and approved by the DB Team. Notify the Utility Owners that a GUPS permit is required for any facilities located inside the Project limits.

Perform all Utility coordination to GDOT standards by a prequalified firm in Area Class 3.10 - Utility Coordination. Refer to the following website for a list of current prequalified firms:
Include the following in Utility coordination:

1. Schedule and meet with the following for a Utility kick-off meeting within 15 Calendar Days of NTP 1: (a) all Utility Owners with facilities located within the Project limits; (b) GDOT’s District Utilities Office (Optional -may or may not attend); and (c) the State Subsurface Utilities Engineer (or designee) (Optional – may or may not attend). Discuss schedule, provide a Project overview, and provide Utility Owners with a clear understanding of Design-Build Utility Coordination processes and what the Utility Owners can expect for the duration of the Project.

2. Contact each Utility Owner to advise of the proposed Project and obtain supplemental verification of the locations of existing Utility facilities (including the employment of additional Overhead/Underground Subsurface Utility Engineering (SUE) investigations as needed in determining requirements for the relocation or adjustment of facilities).

3. Perform all coordination necessary for Utility Adjustments.

### 6.3.2.2 DB Team Design Activities

The DB Team is responsible for the following design activities:

1. Collect the following from each Utility Owner self-performing their relocation work within the Project limits: Utility relocation plans, approved GUPS permits, Utility agreements if required, and cost estimates and letters of no conflict where the Utility Owner's facilities will not be impacted by the Project.

2. Prepare all engineering design, plans, and technical specifications required to perform the necessary Utility relocations.

3. Coordinate the design work of Subcontractors, Utility Owners, and/or Utility Owners’ contractors; including any required inspection, permitting, testing, and monitoring to ensure that the Work is properly performed in accordance with approved design plans.

4. The resolution of any conflicts between Utilities and the construction of the Project.

5. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its Subcontractors due to interference from Utilities or the operation of relocating Utilities.

6. Provide each Utility Owner with roadway design plans and preliminary Utility plans as soon as the plans have reached a level of completeness adequate to allow the Utility Owner to fully understand the Project impacts.

7. Assist Utility Owners in the preparation and submittal to GDOT a Utility Work Plan Retention Request for any Utility that is to remain under the roadway within the construction limits.

8. If a party other than the Utility Owner prepares Utility relocation plans, provide a concurrence box on the plans where the Utility Owner signs and accepts the Utility relocation plans as shown.
9. Review the Utility plans to identify that there are no conflicts with the Project, and ensure that there are no conflicts between each of the Utility Owner's relocation plans.

10. Furnish the final Utility relocation plans to each Utility owner to incorporate into the GUPS Project permit. Once the GUPS Project permit is submitted, GDOT will forward to the DB Team for concurrence.

11. Review all Utility relocation plans, Utility agreements, Utility estimates, and certificates of eligibility to ensure that relocations comply with GDOT's UAM.

12. Certify to GDOT that Utility relocation design plans have been reviewed and accepted by the respective Utility Owner.

### 6.3.2.3 Delays

Under no circumstances will the DB Team be entitled to any additional compensation or time extension hereunder as the result of any Utility Adjustment, whether performed by the DB Team or by the Utility Owner, except as provided in Volume 1, Article 14 (Relief Events; Compensation Events).

### 6.3.3 General Responsibilities of GDOT

GDOT will provide guidance to the DB Team in the Utility Adjustment process to the extent as described in the Design-Build Documents and the Utility Accommodation Policy and Standards Manual.

### 6.3.4 Utility Adjustment Relocation

The DB Team is responsible for all Utility Adjustment Work associated with the Project, with the exception of items explicitly excluded within the MOUs.

### 6.3.5 When Utility Adjustment is Required

Utility Adjustment may be necessary to accommodate the Work for either or both of the following reasons: (i) a physical conflict between the Work and the Utility, and/or (ii) an incompatibility between the Work and the Utility, even though there may be no physical conflict. The physical limits of all Utility Adjustments will extend as necessary to replace the existing Utility, whether inside or outside of the Existing ROW and Proposed ROW. Section 6.2.2.4 (Acquisition of Replacement Utility Property Interests) contains provisions that address the acquisition of easements for Utilities to be installed outside of the Existing ROW and Proposed ROW.

### 6.3.6 Certain Components of the Utility Adjustment Work

#### 6.3.6.1 Betterments

Replacements for existing Utilities will be designed and constructed to provide service at least equal to that offered by the existing Utilities, unless the Utility Owner specifies a lesser replacement or unless a larger size is required to meet current Law, industry standards, or Code. Services include equal access and ability to maintain the facility at its current level of functionality; in other words, like for like in-kind replacement and in accordance with the UAM and GDOT Design Policies.
Any Betterment work furnished or performed by the DB Team as part of a Utility Adjustment will be deemed added to the Work. That proportion of the costs representing improvement or Betterment in a facility will be excluded from the costs eligible for payment by the DB Team or participation by GDOT, unless required to meet Law, industry standards, or Code.

Pay the in-kind replacement costs or larger facility costs if required to meet current Law, industry standards, or Code for removing, adjusting, and relocating those facilities that are physically in place and in conflict with proposed construction and where replacement is necessary.

6.3.6.2 Protection in Place

Assist the Utility Owner in the submission of Retention Request to GDOT for review and acceptance for each Utility that will remain in place in accordance with GDOT’s Utility Accommodation Policy and Standards Manual. The DB Team is responsible for Protection in Place using a GDOT approved Utility Work Plan Retention Request of all Utilities impacted by the Project as necessary for their continued safe operation and structural integrity.

6.3.6.3 Early Adjustments

6.3.7 DB Team’s Responsibility for Utility Identification

All Design Documents for Utility Adjustment Work, whether furnished by the DB Team, or by the Utility Owner or pre-approved design consultant, must be consistent and compatible with the following:

1. The applicable requirements of the DB Documents, including Section 6.2.1 (Standards).
2. Any Utilities remaining in, or being installed in, the same vicinity.
3. All applicable Governmental Approvals.
4. Private approvals of any third parties necessary for such work.

Ensure that the Design Documents are complete and include all Utility adjustment schedules (required only if the Utility Owner self-performs), Utility relocation plans, approved GUPS permits, and associated agreements (if required) necessary to address all foreseeable Utility impacts that might affect the Project. This includes Utility issues affecting ROW acquisition, environmental clearances, Project staging, and Project constructability.

Endeavor to design the Project to avoid conflicts with Utilities when feasible and minimize impacts where conflicts cannot be avoided. Submit to GDOT a SUE Utility Impact Analysis (UIA) in GDOT’s prescribed format as specified in Section 3 (Design and Submittals), Table 3-1 (Master Submittal List).

Research and verify any compensable prior right claimed in the MOU that would result in reimbursement to the Utility Owner for any relocation design, construction or material cost when a Utility Owner claims prior rights in the MOU and does not include either design or construction in the Design-Build Documents. If there is a dispute over property interests with a Utility Owner, The DB Team is responsible for resolving the dispute. Meet with GDOT’s District Utilities
Manager to present the property interests information gathered. This information must be sufficient for the District Utilities Manager (or designee) to certify the extent of the Utility Owner's property interests. GDOT has final approval authority as to the DB Team's determination of whether the Utility Owner has property interests. The DB Team is responsible for all design, construction and material costs when the design and construction are included in the Design-Build Documents.

6.3.8 Utility Relocation Plans

6.3.8.1 Plans Prepared by the DB Team

Where the DB Team and the Utility Owner have agreed that the DB Team will furnish a Utility Adjustment design, prepare final Utility Relocation Plans and have an authorized representative of the Utility Owner sign the plans as “reviewed and approved for construction.” Attach the Utility Work Plan (as approved by the Utility Owner) to the applicable Utility Agreement (if required) for GDOT’s approval.

Unless otherwise specified in the applicable Utility Agreements, all changes to final Utility Relocation Plans previously approved by the Utility Owner (excluding estimates, if the Utility Owner is not responsible for any costs) require written Utility Owner approval. Transmit any GDOT comments to the Utility Owner, and coordinate any modification, re-approval by the Utility Owner, and re-submittal to GDOT as necessary to obtain GDOT’s approval.

6.3.8.2 Plans Prepared by the Utility Owner

Coordinate with the Utility Owner as necessary to confirm compliance with the applicable requirements for all Utility Adjustments to be furnished by a Utility Owner. Attach those Utility Adjustments to the applicable Utility Agreement (if required), and include them in the appropriate Utility Work Plan for GDOT’s acceptance. Transmit any GDOT comments to the Utility Owner, and coordinate any modification, review by the DB Team, and re-submittal to GDOT as necessary to obtain GDOT’s acceptance.

6.3.8.3 Design Documents

Each proposed Utility Adjustment must be shown in the Design Documents, regardless of whether the Utility Relocation Plan is prepared by the DB Team, Utility Owner or Utility Owner’s pre-approved design consultant.
Required Information

1. Preliminary Utility Relocation Plans:
   a. Preliminary Utility Relocation Plan sheets are typically comprised of preliminary roadway plan sheets with the inclusion of all existing Utility facility locations (overhead and underground) found within a Project’s limits. The degree of effort exerted on the part of GDOT and the Utility Owner varies with the type and location of the Utility. GDOT has classified these degrees of effort into different quality levels of SUE information.
   b. Produce and use Preliminary Utility Relocation Plans in the Utility coordination/relocation design activities outlined here. The following minimum information must be shown on the Preliminary Utility Plans:
      i. Construction centerlines with Project stations and begin/end Project limits.
      ii. Curb and gutter or edge of pavement (proposed and existing).
      iii. Road and street names.
      iv. Existing and required ROW limits, property lines, environmentally sensitive area limits, and property owners.
      v. All proposed and existing easements (including existing Utility easements).
      vi. Proposed and existing drainage structures/features (excluding drainage text).
      vii. Proposed construction limits (C/F lines).
      viii. Topographical planimetrics (i.e., existing buildings/structures, existing tree/vegetation limits).
      ix. All proposed bridges, walls, other structures, and landscape or hardscapes.
      x. All proposed and existing strain poles (signal, sign, lighting).
      xi. Utilities Legend.
      xii. Miscellaneous General Notes.
      xiii. Existing overhead and underground Utilities found within the Project’s limits, including size and material if known.
      xiv. Sanitary sewer manhole top, and invert elevations. Sanitary Sewer pipe flow directions.
      xv. Railroad mainline and spur tracks with their respective property/easement limits.
      xvi. Project survey control point locations.

2. Final Utility Relocation Plans:
   a. The final Utility Relocation Plans must clearly show all existing Utilities on the plans and clearly indicate all existing Utilities to remain and all proposed relocations necessary to avoid construction conflicts.
   b. In addition to the information required for the Preliminary Utility Relocation Plans, the final Utility Relocation Plans must include Miscellaneous General Notes required for coordination of Utility facilities with roadway construction.

Sheet Layout

1. Remove any information and graphic data that is not necessary to depict the disposition of Utilities found within the Project’s limits by turning off the appropriate CAD levels on which the data is stored. This will help ensure that information pertinent to Utility facilities can be clearly seen in the Utility Plan sheets. Examples of
extraneous information would be items such as horizontal curve data, superelevation data, roadway dimensions, misc. text, etc. Ensure all background information such as pavement limits, existing structures, etc. is screened back, and ensure all text, line work, details, and symbols are clear and legible when plans are reduced to half-size (typically, 11-by-17 inches).

2. To maintain plan clarity, all applicable general notes, tables, details, and the Utility Legend must be placed separately from the Utility Plan sheets. Provide a Utility Plan Cover Sheet for both preliminary and final Utility Relocation Plans. A recommended example Utility sheet schedule is provided below:

   a. Utility Sheet 1 (Cover Sheet) – Utility General Notes, Utility Legend, Miscellaneous Details.
   b. Utility Sheet 2 (required as needed) – Additional Miscellaneous Details, Pole Data Table.
   c. Utility Plan Sheets – Display Utilities shown in plan view with respect to Project on 24 Series Plan Sheets.
   d. Utility Profile and Cross-Sections Sheets - Proposed Utility facility profiles and cross-sections (as required).
   e. Miscellaneous Utilities Sheets – Miscellaneous proposed Utility details (as required).

Follow the above sheet schedule for all separate Utility relocation plans (i.e., water and sewer plans) included in the Project plans.

Note on the Utility Relocation Plans whose responsibility it is for Utility adjustment. Ensure the plans have made accommodations for Utility crossings and attachments for bridge plans, if applicable. Include the size, weight, and type of Utility for any new Utility crossings requests. In addition, fully detail the method of attachment to the bridge. Review such requests to ensure adequacy and constructability and obtain final acceptance from GDOT. Follow the approval process within this specification. Ensure that all proposed and existing Utilities are coordinated with the respective Project’s Construction Staging Plans and Erosion Control Plans.

Address any additional environmental impacts due to Utilities in the Project’s Environmental Document and/or Permit upon completion of the Utility relocation plans.

6.3.8.4 Certain Requirements for Underground Utilities

Use casing as specified in the Utility Accommodation Policy and Standards Manual for all underground Utilities crossing the Existing ROW, Proposed ROW and/or Additional Properties. The Worksite Utility Coordination Supervisor (WUCS) shall ensure compliance with all Georgia 811 requirements.

6.3.8.5 Utility Work Plan

Utility Work Plan means the combination of the Utility Relocation Plans and the Utility Adjustment Schedule (if required), any required agreements, specifications, cost estimates (if required), and any other information and materials which the Design-Build Team is required to submit to GDOT in connection with each Utility Relocation. The Utility Work Plan also includes the Utility Owner’s approval of plans, specifications, GUPS project permit, and cost.
estimates (if required). The term Utility Work Plan also refers to Supplemental Utility Work Plans and Utility Work Plan Retention Requests.

Prepare a Utility Work Plan that addresses each Utility Adjustment (as well as each Utility remaining in place and not requiring any Protection in Place or other Utility Adjustment) and submit it to GDOT for its review and acceptance. Provide Utility Work Plans for each individual Utility Owner in accordance with the Utility Accommodations Policy and Standards Manual. Coordinate preparation of all components of each Utility Work Plan with the Utility Owner or Utility Owner’s design consultant. Complete the review and comment process for the applicable Utility Work Plan, including the issuance of any required GDOT acceptances, before the start of construction for the affected Utility Adjustment Work.

Provisions governing the procedure for and timing of Utility Work Plan submittals are in Section 6.5 (Deliverables).

Address all Utility Adjustments covered by the same initial Utility Agreement in a single full Utility Work Plan.

### 6.3.8.6 Utility Adjustment Schedule (UAS)

The purpose of the UAS is to provide the DB Team with the pertinent information related to the Utility Owner’s relocation work and timeline when Utility Owners are self-performing the work. When the DB Team is performing the relocation work on behalf of the Utility Owner or if the relocation work has been included in the contract to be accomplished by the Utility Owner’s pre-approved contractor, no UAS will be required, unless there is a dependent activity by the Utility Owner to facilitate this work. However, it is recommended that the Utility Owner still complete a UAS to account for Construction Engineering (CE) activities and/or other utility coordination type activities that may occur during the construction of the project.

Schedule all Utility relocations, adjustments, and obtain a written schedule from the Utility Owner or a Utility Owner pre-approved contractor.

### 6.3.8.7 Revised Work Plan Acceptance

Obtain a revised Utility Work Plan from the Utility (if self-performing) within 30 days after becoming aware of, or upon receipt of written notification of, previously unforeseen Utility removal, relocation, or adjustment found necessary by either the DB Team or the Utility after the start of construction of the Project.

The incorporation of this revised Utility Work Plan into the overall Project Schedule is not intended to correct errors and omissions with the original or current accepted Utility Work Plans submitted to GDOT. If such errors or omissions occur, it is the Utility’s responsibility to adhere to the original or current Utility Work Plan submitted and approved. However, when a revised Utility Work Plan is deemed appropriate to be submitted, use the following procedure for its acceptance:

1. Review all revised Utility Work Plans submitted by the Utility found within the Project limits.
2. Submit the revised Work Plan after review and acceptance, to GDOT for review and acceptance. If, upon review, GDOT determines a revised Work Plan is unreasonable based on the required scope of Utility Adjustment and/or relocation required to accommodate the Project, GDOT will initiate the escalation process to resolve such disputes involving the revised Utility Work Plan, if disputes occur.

6.3.8.8 Post-Let Utility Certification

Develop the Preliminary Utility Status Report. Include a listing of all Utility Owners located within the Project limits and a recommendation as to the extent of each Utility Owner's property interests. Include copies of easements, plans, or other supporting documentation that substantiates any property interests of the Utility Owners in the report. Ensure the report lists each Utility Owner with contact information, any Utility Agreements, current UIA, and a preliminary assessment of the impact to each Utility Owner.

Upon receipt of the accepted Utility relocation plans, approved GUPS permits, and the Preliminary Utility Status Report review and forward that information to GDOT for review. GDOT will review the information and will perform the post-let Utility certification and issue Notice to Proceed (NTP) 3 released for construction. In some instances, a conditional NTP 3 may be provided to allow the project to proceed with construction activities where no utility conflicts exist, there is minimal utility involvement, or when the project will be completed in sections/zones/stages. Under these circumstances, the GDOT Project Manager (PM) will provide all subsequent NTP 3's for those areas not included on the initial NTP 3.

6.4 Construction Requirements

6.4.1 Reserved

6.4.2 General Construction Criteria

Notify GDOT that the Project has reached Substantial Completion and certify at that time that all Utilities have been identified, and that those Utility Owners with property interests or other claims related to relocation or coordination with the Project have been relocated or their claims otherwise satisfied or will be satisfied.

In addition to the above, comply with all provisions set forth under subsection 107.21 of the GDOT Standard Specifications, Construction of Transportation Systems, current edition.

Ensure all Utility Adjustment construction performed by the DB Team conforms to the requirements listed below. All construction engineering and contract supervision is the responsibility of the DB Team. Ensure that all Utility relocation work included in the contract is accomplished in accordance with the Contract Special Provisions, MOU and the Utility Owner approved final design plans and specifications. Consult with the Utility Owner before authorizing any changes that affect the Utility Owners facilities. For Work included in the DB Team’s Contract, the Utility Owner or Utility Owner’s contractor has the right to visit and inspect the work at any time and advise the DB Team and GDOT of any observed discrepancies or potential issues. Notify the Utility Owner when all Utility relocation work is completed and ready for final inspection and acceptance. The DB Team is responsible for verifying that all Utility
Adjustment construction performed by each Utility Owner conforms to the requirements described below. In case of nonconformance, the DB Team will cause the Utility Owner (and/or its contractors, as applicable) to complete all necessary corrective work or to otherwise take such steps as are necessary to conform to these requirements:

1. All criteria identified in Section 6.3 (Design Requirements).
2. The Utility Work Plans approved by GDOT (other than Utility Adjustment Field Modifications complying with this Section 6.4).
3. All safety and environmental requirements.
4. Overall Project Schedule or proposed ROW schedule described in Sections 2 (Project Management), Section 5 (Reserved), and Section 7 (ROW – Additional Properties).
5. Ensure that the installed, abandoned, excavated, or relocated Utilities within the Project limits are all locatable. Locatable means that the line can be field located using SUE QL-B methodology.

The DB Team is responsible for performing all Utility installation, removal, relocation, and adjustments required to accommodate the proposed Project in accordance with the MOU and any required Utility Agreements. This includes any required inspection, permitting, testing, and monitoring to ensure that all the work is properly performed to the approved design plans. The resolution of any conflicts between Utilities and the construction of the Project is the responsibility of the DB Team. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its Subcontractors due to interference from Utilities or the operation of relocating Utilities.

### 6.4.3 Construction Activities

Ensure Utility Adjustments are performed either by the Utility Owner, the Utility Owner’s pre-approved contractors or by self-performing the construction Work.

The DB Team Utility Work construction management will be performed by the Worksite Utility Coordination Supervisor.

### 6.4.4 Inspection of Utility Owner Construction

Set forth procedures for inspection of all Utility Adjustment Work performed by Utility Owners (and/or their pre-approved contractors) to verify compliance with the applicable requirements described in Section 6.4.2 (General Construction Criteria) and to ensure the work is being accomplished in accordance with the GDOT approved Utility Relocation Plan.

### 6.4.5 Scheduling Utility Adjustment Work

The Utility Adjustment Work (other than construction) may begin at any time following issuance of NTP 1. Refer to Volume 1, Article 7.6.2 (Utility Adjustments) for the conditions to commencement of Utility Adjustment Construction Work by the DB Team. Do not arrange for any Utility Owner to begin any demolition, removal, or other construction Work for any Utility Adjustment until all the following conditions are satisfied:
1. The Utility Adjustment is covered by an executed Utility Agreement (if required) (and any conditions to commencement of such activities that are included in the Utility Agreement have been satisfied).

2. Availability and access to affected Replacement Utility Property Interests have been obtained by the Utility Owner (and provided to the DB Team, if applicable).

3. Proposed ROW and/or Additional Properties have been obtained in accordance with the applicable requirements of the DB Documents.

4. The review and comment process has been completed and required approvals have been obtained for the Utility Work Plan covering the Utility Adjustment.

5. All third-party approvals (such as railroad, governmental, etc.) necessary for the Utility Adjustment construction have been obtained, and any pre-construction requirements contained in those approvals have been satisfied.

All other conditions to that Work stated in the DB Documents have been satisfied.

### 6.4.6 Standard of Care Regarding Utilities

Carefully and skillfully carry out all Work impacting Utilities and mark, support, secure, exercise care, and otherwise act to avoid damage to Utilities in accordance with O.C.G.A. 25-9 (The Georgia Utility Facility Protection Act). At the completion of the Work, ensure the condition of all Utilities is at least as safe and permanent as before.

### 6.4.7 Emergency Procedures

The WUCS shall prepare and submit to GDOT an Emergency Utility Response Plan (EURP) at least 30 days prior to NTP 3. The EURP shall indicate the Project location (which includes street address and or major intersections / major highway route, if possible with a land mark) that would be reported in case of an emergency, WUCS, Emergency Utility Coordinator (EUC), Utility company name, Utility company emergency contact information to include emergency phone number, response time for emergency, working condition of devices needed to facilitate prompt shut off, and primary point of contact name and phone number for the Project.

The Emergency Utility Coordinator (EUC) must be an employee of the DB Team and is responsible for notifying the appropriate Utility company and/or Utility subcontractors in case of an emergency. EURP must include the contact details of the EUC, if WUCS is not the primary emergency Utility coordinator for this Project.

The plan will also include a means of reporting emergencies and the Utility Emergency Response Information for each company. Post the EURP in an area readily accessible to GDOT and Project personnel. Distribute the copies of EURP by e-mail and hard copy to GDOT, DB Team’s Project Manager, superintendent, and all approved Subcontractors whose work can be in conflict with Utility facilities, and personnel of each facility/owner/operator who has facilities within the Project limits. Keep a copy in close proximity to active construction.

In the event of interruption to gas, water, or other Utility services as a result of accidental breakage or as a result of being exposed or unsupported, promptly notify the appropriate emergency officials, the Georgia Utilities Protection Center, and the appropriate Utility facility
company or operator, if known. Do not engage in excavating or blasting activities that may cause further damage to the Utility facility until the damage has been repaired.

Include an item in the agenda of Utility Coordination meeting about the updates/changes in the EURP plan to ensure the contact information provided in the EURP (name and phone numbers) is kept up-to-date.

The Emergency Utility Response Plan and Emergency Utility Response Information template can be found at the State of Georgia, Office of Utilities Webpage.

### 6.4.8 Switch Over to New Facilities

After a newly adjusted, relocated or installed Utility has been accepted by the Utility Owner and is otherwise ready to be placed in service, coordinate with the Utility Owner regarding the procedure and timing for placing the newly adjusted Utility into service and terminating service at the Utility being replaced.

### 6.4.9 Traffic Control

The DB Team is responsible for, and the Construction Traffic Control Plan will cover, all traffic control made necessary for Utility Adjustment Work, whether performed by the DB Team or by the Utility Owner. Traffic control for Adjustments or installations will be coordinated with GDOT. Traffic control must comply with the guidelines of the Manual on Traffic Control Devices (MUTCD), current edition, and of Section 18 (Traffic Control).

### 6.5 Deliverables

Time all Submittals described in this Section 6 to meet the Baseline Project Schedule, considering GDOT’s applicable review and response times designated in this Section, or if not stated therein, then as stated in Volume 1, Article 6.3 (Review and Oversight).

Upon GDOT review and acceptance, provide a copy of the accepted final Utility plans to all Utility Owners whose Utility relocation work was performed by the DB Team.

#### 6.5.1 Utility Work Plan Submittals

Transmit any GDOT comments to the Utility Owner, and coordinate any modification, review, and approval by the Utility Owner and re-submittal to GDOT, as necessary to resolve all GDOT comments and/or obtain GDOT’s acceptance, as applicable.

#### 6.5.2 Preliminary Utility Status Report

Prepare and submit to GDOT a Preliminary Utility Status Report concurrently with accepted relocated Utility plans in accordance with Section 3 (Design and Submittals).

#### 6.5.3 Subsurface Utility Engineering (SUE) Requirements

Compile and submit to GDOT all SUE deliverables, Utility relocation plans, SUE Utility Impact Analysis, Utility Adjustment Schedules (if required), Utility Agreements (if required), Utility Estimates (if required) (if estimates are provided by the Utility owners), and Letters of no conflict, as set forth above for the Project.
Ensure each Utility Agreement and Utility relocation plan submitted is accompanied by a certification from the DB Team stating that the proposed relocation will not conflict with the proposed highway improvement and will not conflict with another Utility Owner's relocation plan.

6.5.4 Utility As-Built Standard

6.5.4.1 General As-Built Utility Requirements

The DB Team is responsible for managing, ensuring the accuracy of, and delivering all Utility Record Drawings, which must be submitted for intermediate review and approval within 30 days after Utility relocations are completed.

Ensure the following:

1. All underground Utilities that are relocated, adjusted or newly installed within the Project limits will be surveyed by a certified licensed surveyor at the time of installation to determine the exact location and position of the Utility line, including:
   a. The outside diameter of pipe or width of duct banks and configuration of either cased or non-encased multi-conduit systems.
   b. The Utility’s structural material composition and condition.
   c. Identification of benchmarks used to determine elevations.
   d. All bored in facilities will require bore logs, which is part of the required as-built record information.
   e. Elevations with an accuracy of +/- 0.05 feet and certified accurate to the benchmarks used to determine elevations.
   f. Horizontal data accurate to within +/- 0.2 feet or applicable survey standards, whichever is more precise.
   g. Recording and labeling of the average depth below the surface of each run, all change of direction points, and all surface or underground components such as valves, manholes, drop inlets, clean outs, meters, etc.
      i. For wet facilities – at 100 ft. intervals
      ii. For dry facilities – at 25-50 ft. intervals, depending on the vertical alignment
2. All resulting abandoned or excavated underground Utilities within the Project limits are clearly delineated and labeled as abandoned or removed.
3. All relocated, adjusted and newly installed aerial facilities are recorded to include the following:
   a. Owner.
   b. Age.
   c. Size.
   d. Height.
   e. Number.
   f. Material type.
   g. General condition of the Utility.
   h. Horizontal location surveyed to the same accuracies and precision as is required for the topographic data.
i. Aerial Utility Owners attached to the pole.

j. Horizontal connectivity of the Utilities between the poles, including major service drops (substations or industrial facilities).

### 6.5.4.2 As-Built Utility CADD Files and Plans Preparation

Submit as-built information in GDOT’s current CADD format (MicroStation and InRoads) and in PDF format in accordance with GDOT’s current Electronic Data Guidelines (EDG) and Plan Presentation Guide (PPG).

Ensure the as-built Utility information is submitted as follows:

#### CADD Files

1. All points/data are placed in one CADD file per Utility Owner.

2. DGN files are named using the naming convention “1234567UTLAB_XYZ.dgn” (where “1234567” represents the PI# and “XYZ” the Owner’s UPC code).

3. One empty, overall file using the naming convention “1234567UTLEAB.dgn” is created with all individual files named “1234567UTLAB_XYZ.dgn” attached as reference files.

4. All UTLAB files follow the conventions set forth in the EDG for the UTLE file.

5. Sheet files, using GDOT’s title block, are created for each Utility Owner in accordance with Section 24, and Section 44 (if required) of GDOT’s PPG; levels are correctly turned on/off/grayed back to enable future printing if needed.

6. The Project’s scale is maintained.

7. Relocated poles are numbered and matched to a pole data table.

8. Pole data tables and point data tables are included.

9. All street names are labeled.

10. All easements and ROW are labeled.

11. The location and elevation of the referenced benchmark is identified and labeled; if the referenced benchmark is not within the Project limits, then a complete description of its location will be provided to assist in future locating.

12. Any changes in details of design and/or additional supporting information, such as approved placement details, pipe sizes, material changes, geo-coded photos, etc., are be labeled.

#### PDF Files

1. Create PDFs of the CADD sheet files for each Utility Owner in accordance with Section 24, and Section 44 (if required) of the GDOT PPG; levels must be correctly turned on/off/grayed back to enable future printing.

2. Include the name, address, and telephone number of the firm preparing the drawing in the title block.

3. Include the date the as-built data is collected in the revision block of the title block.
4. Include the Professional Surveyor’s or Professional Engineer’s stamp and statement certifying that Record Drawings reflect the true conditions in the field.
   a. An electronic stamp may be used.
   b. Certification applies to new as-built information (not to the existing Utility information) provided by GDOT.
5. Provide the Contractors’ statement (with an original signature and Project Number on the cover sheet and transmittal letter) verifying that all construction specifications and product qualities have been met.
6. Label “Record Drawing” on each sheet.

6.5.4.3 Utility Record Drawings Review and Submittal Process

1. Submit completed as-built CADD files and PDFs of the Record Drawings Utility plan sheets to the DB Team’s EOR for review and comments.
2. Record Drawings are not considered complete until the DB Team has responded to all comments from these reviews to the satisfaction of the DB Team's EOR.
3. Prior to submitting any Utility as-builts to Utility Owners, provide GDOT with one PDF copy of each of the major Utilities (Water/Sewer, Gas, Telecom and Electric) for preliminary review and comment. After comments have been addressed; no further preliminary review will be required.
4. Each Utility Owner, whose facilities were relocated, abandoned, adjusted, or installed will receive a PDF and CADD copy of their Record Drawings for review and acceptance within 90 days of the completed work.
5. Submit the combined final Utility as-built plans to GDOT as follows:
   a. One overall, final CADD file in GDOT’s current CADD Software with each Utility Owner’s file appropriately attached as a reference file per GDOT’s PPG and EDG.
   b. One PDF set of Section 24 and Section 44 (if required) plans for each Utility Owner’s facilities.
6. GDOT will perform Quality Assurance (QA) on all deliverables to determine compliance with GDOT’s EDG ad PPG before final acceptance by GDOT.

6.5.4.4 Utility Facility Relocation Acceptance Form

The Utility Facility Relocation Acceptance Form (see Attachment 6-3) shall be completed by the Contractor’s WUCS. It must also be signed by an authorized representative of the Utility Owner and by the GDOT Project Manager upon completion and acceptance of the final Utility as-built plans by the Utility Owner.

Execution of the Utility Facility Relocation Acceptance Form by the DB Team, Utility Owner, and GDOT provides acknowledgement that the Utility relocation work accomplished by the DB Team has been visually inspected and accepted by the Utility Owner and constructed in accordance with the Utility Owner approved relocation design plans, their current specifications, and the requirements of the Memorandum of Understanding (MOU) as executed by the Utility Owner. Further, the Contractor’s WUCS must provide the Utility Owner with a complete set of Record Drawings (CADD and PDF) reflecting the relocation work performed by the Contractor for
review and approval. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final Utility Owner approved Record Drawings, all parties must agree that the Utility Owner will operate and maintain the installed facilities covered by the Utility Facility Relocation Acceptance Form going forward based on the date of execution by the GDOT Project Manager. The DB Team, however, is responsible to correct any items inadvertently overlooked and subsequently identified in a Utility punch list and to provide up to date Record Drawings to the Utility Owner.

Execution of the Utility Facility Relocation Acceptance Form by GDOT does not confer legitimacy and accuracy or in any way transfers liability for errors or omissions made by the preparer.

6.5.5 Other Deliverables

As indicated in this Section 6 and in Section 3 (Design and Submittals).
7 ROW – Additional Properties

7.1 General
Additional Properties required based on the requirements of Section 6 (Utility Adjustments) that require acquisition, in addition to the Existing ROW owned by GDOT, must be approved by GDOT and FHWA, if applicable, by a NEPA/GEPA re-evaluation. Pay and fully reimburse to GDOT all costs to acquire Additional Properties.

This Section 7 sets forth the ROW acquisition activities for Additional Properties that will be provided by the DB Team and designates the ROW acquisition activities GDOT will conduct. Provide all engineering and ROW documents necessary to acquire title for Additional Properties, in form and substance acceptable to GDOT, in the name of the Georgia Department of Transportation. Also provide for relocation of displacees and clearance/demolition of the improvements from the ROW, as more fully described in the following sub-sections.

7.2 Administrative Requirements
Provide information of all proposed and final acquisition requirements for Additional Properties, including temporary easements, permanent easements, full takes, or leased property for construction means and methods by the DB Team.

Acquire additional ROW in accordance with State and/or federal laws and in conformance to FHWA and GDOT policies, procedures, and guidelines.

Pursuant to the applicable State and/or federal regulations,

1. acquire additional DB Team ROW parcels for the Project on behalf of GDOT subject to GDOT’s rights of review, approval, and audit.
2. maintain adequate access to all properties at all times or until relocation is completed.
3. maintain Utility service to occupied properties at all times or until relocation is completed.
4. maintain a complete and current set of approved ROW plans for public use.

GDOT will either provide to the DB Team any GDOT forms referenced in this section or will make them available upon request. Complete and document all ROW activities in compliance with all applicable State and/or federal laws, including the GDOT Right of Way Manual, Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), and the rules and regulations implementing the Uniform Act. In the event of an irreconcilable conflict between the GDOT Right of Way Manual and the Uniform Act, the standard, criterion, requirement, condition, procedure, specification, or other provision offering higher quality or better performance will apply per Volume 1, Article 1.2.4.

In the event The DB Team does not follow the provisions of 49 CFR Part 24 of the Uniform Act in the performance of the acquisition and/or relocation processes for the Project, fails to obtain or create any necessary written documentation in the ROW parcel files, or violates any requirements of the Uniform Act that results in the Project losing federal funding on a parcels or the Project in general, the DB Team will be responsible for any and all such loss of federal funds and all expenses determined to be ineligible for federal reimbursement due to the DB Team’s
failure to comply with the provisions of the Uniform Act (this is applicable to Federal-Aid Design-Build projects).

### 7.2.1 Standards

Provide activities in this Section in accordance with GDOT’s *GDOT Right of Way Manual*, other manuals listed in Attachment 3-1 (Manuals), and other provisions of the DB Documents.

### 7.2.2 Meetings

Conduct and attend meetings as requested by GDOT. Meetings may include, but are not limited to, property acquisition status meetings, project status meetings, and property owner’s meetings.

Provide exhibits, take minutes, and distribute minutes, as requested by GDOT. Distribute within five days of the meeting but will not be finalized until an adequate comment period of five days has been allowed.

### 7.2.3 Correspondence

All correspondence with GDOT relating to acquisition of real property must include a heading with the following information (at a minimum):

1. County
2. Project numbers
3. PI numbers
4. Parcel number
5. Name and address of owners of record, tenant, or other interest holder

All correspondence with property owners relating to acquisition of real property must be on GDOT Letterhead and include the following information (at a minimum):

1. County
2. Project numbers
3. PI numbers
4. Parcel number
5. Name and address of owners of record, tenant, or other interest holder
6. Name and contact information of ROW service provider

### 7.2.4 File Management and Document Control

In administering and managing ROW activities:

1. Maintain parcel records on file of all aspects of the acquisition process in accordance with GDOT requirements and applicable State and/or federal laws.
2. Ensure each negotiation parcel file includes all documents required by GDOT and/or FHWA.
3. Furnish the following data for entry into GDOT’s Electronic Data Management system at a frequency defined by GDOT, but no less than monthly:
a. Property Owner’s names (as the title reports are received from Attorney)
b. Appraiser’s names (after approval of recommendation)
c. Appraisal due dates (after furnishing appraiser with the written R/W Assignment Letter)
d. Appraisal received dates (as the appraisals are received from the Appraiser)
e. Project/Parcel comments (anytime when appropriate)

7.2.5 Project Tracking and Reporting
The DB Team must establish a project tracking system and reporting system.

1. Provide monthly ROW parcel status updates to GDOT.
2. Provide GDOT with all specific reports and supporting documentation for review and approval during the acquisition process.
3. Provide monthly summaries (or as requested) for the cost of ROW acquisition and related relocation assistance, including amounts authorized and amounts paid on a parcel-by-parcel basis and budget forecasting on an overall Project basis
4. Maintain and electronically transmit to GDOT, in a format acceptable to GDOT, monthly status reports (or as requested) including pre-acquisition, acquisition, relocation, and demolition or removal of improvement status.

Prepare and submit electronically to GDOT, on a monthly basis (or as requested), a spreadsheet that contains ROW-specific data including, but not limited to, parcel number, type of ROW, progress status, and types of properties.

7.2.6 Quality Assurance, Quality Control, and Audits
Establish a quality assurance, quality control, and audit system that accomplishes the following:

1. Show the appraisal, acquisition and relocation status of all parcels.
2. Identify how the DB Team remains in compliance during the property acquisition process.
3. Ensure that activities are undertaken to prevent fraud, waste, and mismanagement.
4. Ensure that negotiation records are complete, detailed, and thorough.
5. Perform or ensure that routine and random audits are performed on the process and parcel files throughout the life of the acquisition process.

An independent consultant with the necessary expertise in appraisal, acquisition, and relocation policies and procedures may administer QA/QC and/or audits and make periodic reviews and reports to the DB Team and GDOT.

For GDOT initiated audits,
1. make files available.
2. acknowledge required actions and/or findings.
3. take correction actions, as required, to address findings.
7.3 Design Requirements

7.3.1 DB Team Responsibilities

Reimburse GDOT for any administrative activities provided in support of the acquisition of Additional Properties. Once the DB Team receives approval from GDOT to acquire additional parcels, GDOT will request that the Office of Attorney General assign an approved Special Assistant to the Attorney General (SAAG) to conduct the title work, closings, condemnations, and any related legal activities. Reimburse GDOT within 30 days of receipt of the invoice from GDOT for the cost GDOT will pay the Office of Georgia Attorney General for its services. Do not, without prior approval, initiate negotiations of the additional DB Team acquired ROW until the ROW plans for the applicable constructible segment have been approved by GDOT and the constructible segment has environmental clearance.

Do not begin construction on any parcel of real estate unless property rights for the parcel have been obtained and recorded in favor of GDOT, possession has occurred, ROW Certification has been completed, and the parcel(s) have been released for construction. ROW property possession may be by use of Right of Entry (ROE) as may be granted by certain Governmental Entities, and/or certain Public Utility parcels, and as accepted by GDOT on a case by case basis.

DB Team’s ROW Project Manager (ROW PM) is responsible for ensuring that the additional ROW is free of obstructions prior to construction commencing on any constructible segment of the Project including illegal encroachments on existing right of way.

DB Team’s ROW PM will audit, review, and pre-approve all negotiations, files, settlements, etc. prior to requesting any required GDOT’s review and/or approval.

As set forth in Volume 1, Article 2 (Grant of Authority and Right of Way), and as more fully described in this Section 7, the DB Team is responsible for the reimbursement to GDOT for costs of all services and preparation of all documentation for all Additional Properties.

DB Team’s services to be provided with respect to the acquisition of the Additional Properties include the following:

1. Appraisals
2. Environmental due diligence
3. Letter from the DB Team’s EOR certifying that the required ROW Properties acquisition is necessary and that any proposed alternatives are not feasible (unless otherwise authorized by GDOT)

The DB Team is permitted to negotiate with a property owner to use private property located beyond the State Proposed Project limits for mobile work trailers, storage, equipment, etc. Said negotiation of use is between The DB Team and the property owner and will in no way affect the negotiations related to right of way acquisition for the Project. GDOT will not be obligated to exercise its power of eminent domain in connection with DB Team’s acquisition of any such temporary right or interest, and GDOT will have no obligations or responsibilities with respect to the acquisition, maintenance, or disposition of such temporary rights or interests.
7.3.2 DB Team Conflict of Interest

Promptly disclose to GDOT if at any time, the DB Team, DB Team-Related Entity, or any subsidiary or parent company of the DB Team to the best of the DB Team’s knowledge, directly or indirectly is involved in any of the following:

1. Acquires or has previously acquired any interest in real property likely to be parcels of the ROW or the remainders of any such parcels.
2. Loans or has previously loaned money to any interest holder in any real property likely to be a ROW parcel and accepts as security for such loan the parcel, or the remainder of any such parcel that is not a whole acquisition.
3. Purchases or has previously purchased from an existing mortgagee the mortgage instrument that secures an existing loan against real property likely to be a ROW parcel, (or the remainder of any such parcel), or is employed by or acts as a representative of any property owner or tenant from which ROW or easement necessary for the Project. In the case of acquisitions, loans, or mortgage purchases that occurred prior to Effective Date, such disclosure must be made within 14 days after Effective Date.

In the event that DB Team, DB Team-Related Entity, or any subsidiary or parent company of DB Team, acquires a real property interest, whether by title or mortgage, in any ROW parcels of said interest will be conveyed to the State of Georgia by condemnation.

If the DB Team, DB Team-Related Entity, or any subsidiary or parent company of the DB Team, is employed by or acts as a representative of any property owner or tenant which ROW or easement necessary is for the Project, the DB Team must immediately cease said relationship or activity.

7.3.3 GDOT Responsibilities

GDOT will have the following responsibilities in connection with acquisition of DB Team proposed Additional Properties:

1. Provide final approval, where final approval is warranted, for all negotiation settlements and relocation assistance payments.
2. Provide a staff ROW Oversight Manager and/or Administrative Review Officer to serve as first point of contact, and who will be responsible for reviewing all negotiated settlements.

ROW Oversight Manager, State ROW Program Manager, Assistant ROW Administrator or ROW Administrator will be the only authorized persons allowed to sign the Option Agreements and Administrative Settlement Analysis.

7.3.4 Office of the Attorney General Responsibilities

The parties hereto acknowledge the statutory requirements that the Attorney General of the State of Georgia has exclusive authority to represent and defend GDOT, through the appointed SAAG. In its role as attorney for GDOT, the SAAG has the responsibility for the following

1. Prepare Ownership Verifications and/or Preliminary Title Certificates which will include all pertinent deeds or documents relating to each parcel.
2. Review Right of Way plans for property line discrepancies or errors.
3. Analyze recommended parcel values and/or appraisal issues.
4. Coordination with GDOT on all legal matters concerning acquisition processes, including all negotiated legal settlements.
5. Conduct closings within 90 days of GDOT’s acceptance of the Option Agreement.
6. Prepare final title opinions.
7. Represent GDOT in all condemnation and eviction proceedings.
8. Prepare, obtain, and file of all necessary legal documentation for eviction of property owners or tenants.
9. Implement jury trials including determination of expert witnesses and all appeals.
10. Provide additional legal advice and opinions as needed by GDOT.

7.3.5 ROW Acquisition Plan
Submit written acquisition and relocation procedures to GDOT for approval prior to commencing right-of-way activities. These procedures must contain a prioritized appraisal, acquisition, and relocation strategy as well as check points for GDOT approval, such as approval of just compensation, replacement housing payment calculations, replacement housing payment and moving cost claims, appraisals, administrative and stipulated settlements that exceed determined thresholds based on a risk management analysis, etc.

Prepare a ROW Acquisition Plan within 60 days of NTP 1 that sets forth the following:

1. DB Team’s organization, including names, titles, and qualifications of Key Personnel and other ROW personnel
2. Key Personnel roles and responsibilities
3. Integration of the ROW schedule into the Project Schedule
4. Interface between design and ROW activities
5. Acquisition process and key interactions
6. Documentation and reporting procedures
7. Quality control procedures
8. Quality review standards and audits

Ensure the ROW Acquisition Plan establishes the specific means by which DB Team will perform the following:

9. Provide sufficient prequalified personnel (include an organizational chart) to achieve, in accordance with the Project Schedule, the goals and milestones established for ROW acquisition, relocation assistance, appraisals, and clearance/demolition of the improvements from the ROW
10. Provide relocation advisory assistance such as finding replacement properties and offering special assistance including ADA requirements, if applicable
11. Provide administrative support
12. Provide a conceptual stage study, if applicable

13. Provide translation to foreign language, or communications for those visually impaired or hearing impaired, as necessary

14. Provide documentation and reports

15. Procure, distribute, and explain GDOT acquisition and relocation brochures as approved by GDOT and/or FHWA

16. Establish, implement, and maintain QC procedures and quality review standards for the acquisition of ROW while preventing fraud, waste, and mismanagement

17. Ensure the ROW Acquisition Plan includes the following:
   a. General Information/Project Introduction
   b. Project Approach
   c. Overview of Roles and Responsibilities (DB Team/GDOT)
   d. Key Personnel roles and responsibilities
   e. Process and Procedures for the following phases/activities:
      i. Pre-Acquisition
      ii. Acquisition
      iii. Administrative Appeal
      iv. Condemnation and Condemnation Support
      v. Closing
      vi. Relocation Assistance
      vii. Certification (Single/Phased Release)
      viii. Clearance of ROW
      ix. Property Fencing
   f. Acquisition support staff and activities
   g. Meetings
   h. Schedule
   i. Documentation and Document Control
   j. File Management
   k. Progress Tracking and Reporting
   l. Quality Assurance Quality Control and Audits
m. Appendix:
  i. ROW Plan Exhibit
  ii. Key Personnel Organization Chart
  iii. Acquisition Team Member Role, Responsibilities, Associated Certifications
  iv. Project Inspection Checklist
  v. Correspondence/Forms/Templates

Identify all Key Personnel, personnel and provide a copy of the GDOT Service Class Certification for the DB Team’s proposed ROW PM, Acquisition Manager, appraisers, other valuation experts, relocation negotiation agents, relocation benefits specialist, pre-acquisition agent, conceptual stage study preparer, condemnation court coordinator, condemnation petition preparer, property manager (including asbestos inspector, asbestos abatement, demolition, and UST removal personnel and affiliation), negotiators, and any State Proposed ROW personnel whose services will be required. Ensure all of the above is in good standing with the GDOT Office of ROW.

Update the ROW Acquisition Plan including the organization chart whenever changes in the Plan or personnel occur. For the acquisition of Additional Properties, assess the ROW Acquisition Plan and revise accordingly.

### 7.3.6 Acquisition Process Summary
Describe all applicable activities and services with respect to the acquisition of DB Team proposed Additional Properties.

1. ROW plans development, if applicable
2. ROW budget estimates and updates, if applicable
3. Title-related activities, if applicable
4. Appraisals and/or other valuation or damage study reports, if applicable
5. Relocation benefits package preparations, if applicable
6. Negotiations
7. Relocation advisory assistance
8. Condemnation coordination services
9. Abatement inspections, abatement, and demolition or removal of obstructions to clear required ROW
10. ROW Certification support
11. ROW Release request
12. Documentation and document control
13. Monthly Progress Reports
14. ROW administration and management
15. ROW quality management
16. Other activities required to obtain all ROEs, as necessary

7.3.7 Pre-Acquisition Activities

7.3.7.1 ROW Plans and Engineering
Prepare a plat and legal description for Additional Properties needed, if any, in accordance with the requirements of this Section 7. If proposing DB Team Proposed / DB Team Acquired Right of Way, develop Proposed ROW Plan and submit within 30 days from the Issuance of NTP 1. No acquisition activities can begin until the DB Team’s Proposed ROW Plan is accepted by GDOT, and if required FHWA.

Prepare timely written notification to GDOT of any environmental or other concerns associated with the DB Team proposed Additional Properties that could require environmental remediation or other special attention or that would require a report to be prepared.

The NEPA Reevaluation must be approved by GDOT and FHWA prior to commencing acquisition activities for any parcel.

7.3.7.2 Title Services
Provide to the assigned SAAG one full-size and one half-size set of printed preliminary ROW plans in order for the SAAG to prepare owner verifications and preliminary title reports prior to negotiations. Adhere to the GDOT ROW Manual, and shall also comply with the following requirements:

1. Review the preliminary title commitment or report to ensure that all current owners of record title are contacted, and that negotiations or condemnation actions are conducted with all appropriate parties.

2. Work with the current owners of record of each parcel or with interest in a parcel or their designee and all other appropriate parties to clear any title exceptions or exclusions not acceptable to GDOT.

3. Submit a request for a plan revision attaching a copy of the Owner Verification Form if the attorney certifies that the plans, legal descriptions, and/or property owner’s name is in conflict.

Furnish the following data for entry into the TPro System: Property Owner’s names (as the title reports are received from Attorney).

7.3.7.3 Project inspection Checklist
Submit a request for an update to the Project Inspection Checklist for any Additional DB Team acquired properties.

Schedule a Project Field review with the DB Team ROW PM, GDOT Project Review Appraiser and ROW Oversight Manager to determine the type and scope of appraisal work required for the Additional DB Team proposed properties along with any necessary specialty reports. Following the meeting, GDOT will complete an update to the Project Inspection Checklist and return to DB Team.
7.3.7.4 Appraisal Services

Provide GDOT with fair market value appraisals. Prepare all appraisals in conformance with acceptable appraisal methods and standards (including the Uniform Act), and in accordance with professional appraisal methods and applicable GDOT and FHWA policies and procedures. In addition, adhere to the GDOT ROW Manual, and comply with the following requirements:

1. Select appraisers from GDOT’s prequalified list of appraisers per the appropriate level as determined by the GDOT review appraiser. GDOT has final approval of the selection of each appraiser submitted by DB Team.

2. Obtain back-up appraisal reports per GDOT ROW Manual guidelines.

3. Select certain specialty valuation and cost estimators as may be required by the assigned review appraiser.

4. Establish personal pre-appraisal contact with each owner of record title and each occupant and document all contacts.

5. Contact the owner of record or their designated representatives by telephone to offer them the opportunity to accompany the appraiser on the appraiser's inspection of the parcel and maintain a record of all such contacts in the parcel file.

6. Obtain and include in the appraisal copies of all written leases, licenses, and other occupancy agreements, including outdoor advertising and sign agreements, in order to identify lessees, licensees, and other occupants with potential compensable interests in each parcel, and to determine the value of each such interest.

7. Coordinate with the GDOT review appraiser regarding corrections and additional information that may be required for a particular appraisal.

8. Cause the appraisers to prepare updated appraisals when required by GDOT or as needed during eminent domain proceedings. Ensure updated appraisal packages comply with Uniform Standards of Professional Appraisal Practice (USPAP).

Prepare and deliver to GDOT, upon request, a copy of all file documents as formally requested in discovery motions or requests for production.

7.3.8 Acquisition Activities

7.3.8.1 DB Team Responsibilities during ROW Negotiations

Comply with the following requirements during ROW negotiations:

1. Conduct all negotiations in accordance with the requirements of applicable State and federal laws, including 23 CFR § 710 and 49 CFR § 24.

2. Contact each property owner or owner's designated representative in person and onsite, when possible. Present Fair Market Value (FMV) in the appropriate offer letter on GDOT’s letterhead and include the following documents:
   a. Statement of Value
   b. Option with plats attached
   c. GDOT-approved brochure and receipt for same
   d. Incidental Payment Claim Form
e. To scale ROW plan sheets, cross section, and driveway profiles pertaining to subject parcel and receipt for same

3. Ensure the Title Report is no more than six months old and an appraisal no more than 12 months old at the Initiation of Negotiations (IN).

4. Make no less than three negotiation contacts with the owner or the owner’s representative (one original contact and two follow-up contacts).

5. The DB Team’s Acquisition Manager shall make one additional contact, Last Contact.

6. Distribute to all property owners and displacees affected by the Project GDOT-approved informational brochures at the time of the IN.

7. Identify lessors, lessees, licensees, occupants, outdoor advertising sign owners, or other parties with potential compensable interests. If appropriate after consultation with GDOT, negotiate with such parties for the acquisition of their compensable interests utilizing the appropriate paperwork.

8. Verify the property owners, lessees, licensees, occupants, and other holders of compensable interests. Confer with and transmit to GDOT any settlement proposals from property owners, lessees, licensees, occupants, or other holders of any compensable interest, as applicable, including a detailed Administrative Settlement Analysis. GDOT will determine whether to accept any settlement proposal.

9. Deliver any settlement proposal and DB Team’s Administrative Settlement Analysis to GDOT within seven days of DB Team’s receipt of the settlement proposal from the interest holder.
   a. GDOT shall provide a settlement decision to DB Team within 10 days.
   b. The DB Team shall then provide a response to the interest holder within five days.

10. Provide documents to support the closing, including appropriate information from the parcel file, legal description, parcel plat, and data tables.

11. If negotiations are unsuccessful, prior to sending out any 10-day Administrative Appeal letters regarding warnings of condemnation on each parcel, send to GDOT a request to move to condemnation providing information and justification to support the request.

12. Send a 10-day Administrative Appeal letter to the interest holder for those negotiations that are unsuccessful. In the event the interest holder requests an administrative review hearing, GDOT will facilitate the process. GDOT will then provide the results of the administrative review hearing to DB Team and the interest holder.

13. Provide timely (not more than five days after inquiry) response to the verbal or written inquiries of any property owner, lessee, licensee, occupant, or other holder of a compensable interest, as applicable.

14. Create and maintain a complete negotiation parcel file for each interest holder (separately from the relocation files), and in conformance with the GDOT ROW Manual. Retain and properly secure all original ROW documents in the Project office, or as otherwise approved by GDOT. Ensure all original ROW documents are accessible by GDOT upon request.

15. Submit completed (closed or condemned) negotiation parcel files to GDOT for review only after a thorough review is performed by DB Team’s ROW PM.
16. Be open to all reasonable settlement proposals (that comply with the regulations as outlined in this section) from the interest holders, which are feasible and help expedite the ROW acquisition process. Understand that GDOT and the FHWA encourage solutions that satisfy the interest holder and promote the success of the Project.

7.3.8.2 DB Team Responsibilities during Relocation Assistance

Coordinate and perform the administrative requirements necessary to relocate any occupants and their personality from ROW. Perform all Work with respect to relocation assistance in accordance with applicable State and federal laws, the Uniform Act, and in accordance with all provisions of this Agreement.

Activities related to the relocation assistance of occupants from ROW include, but are not limited to the following:

1. Prepare a revised conceptual stage study, if needed
2. Prepare a Relocation Plan in accordance with the GDOT ROW Manual
3. Monitor all relocation assistance activities
4. Prevent fraud, waste, and mismanagement
5. Assist with all GDOT requests and be responsible for carrying out decisions made by GDOT
6. Complete the following items when determining relocation assistance benefits and preparing relocation assistance benefits packages, which include offer package and any replacement housing reports:
   a. Prepare all packages in conformance with applicable State and/or federal laws and regulations, 49 CFR § 24 – the Uniform Act, FHWA and/or GDOT policies and procedures.
   b. Employ Relocation Specialists who are thoroughly familiar with the Uniform Act in regard to determining relocation assistance benefits.
   c. Ensure the GDOT-approved format for relocation assistance benefits packages is used and demonstrated in all forms, letters, and package documentation.
   d. Take measures to protect the integrity of the relocation assistance benefits determination process, such as designating a qualified individual to administer the relocation assistance benefits separate from the individual determining the relocation assistance benefits.
   e. Submit relocation assistance benefits packages to GDOT ROW for review and approval prior to administering any relocation assistance benefits.

7. Provide relocation assistance strictly in accordance with the State and/or federal laws and the Uniform Act. Complete the following items when administering relocation assistance benefits:
   a. Provide written notice to all property owners, lessees, licensees, occupants, and potential relocated persons regarding eligible relocation assistance; provide them with a GDOT-approved brochure; perform relocation interviews, complete and maintain interview forms, and discuss general eligibility requirements, programs, and services with potential displacees; and maintain a thorough written record of all contacts.
b. Provide in writing to GDOT any questions as to the eligibility of a potential relocated persons.

c. Contact and provide relocation assistance to those parties affected by the ROW acquisition.

d. Locate information, evaluate, and maintain files on comparable available housing, commercial, retail, and industrial sites.

e. Calculate replacement supplement benefits.

f. Compute and submit relocation benefits packages to GDOT for review and approval prior to DB Team’s proceeding with any relocation activities.

g. Perform and complete a Decent, Safe, and Sanitary (DSS) inspection for any replacement housing.

h. Secure and process any required moving estimates and forms, to be approved by GDOT, for the relocation of personal property.

i. Coordinate moves with displacees and/or moving companies in accordance with GDOT procedures and the Uniform Act.

j. Attend all closings on replacement properties and ensure supplemental payments, if any, are properly distributed in a timely manner.

k. Process and compute increased interest payments on the mortgage of owner-occupied dwellings, as required.

l. Deliver to displacees a 90 Day notice of eligibility letter simultaneous with the delivery of the relocation benefits package along with the location of the comparable property used to compute the supplement.

m. Deliver a 60 Day notice to vacate letter to displacees after obtaining title to the displacee’s ROW.

n. Notify GDOT immediately if a displacee has not moved after the 60 Day notice to vacate has expired. Provide to GDOT a written recommendation to facilitate the displacees’ move.

o. Be available for any appeals or hearings.

p. Prepare relocation payment claim submissions for all displacees and all relocation assistance benefits.

q. Verify DSS dwelling criteria on all replacement housing as selected by the displacees.

r. Secure dwellings and structures no later than 14 days after vacancy and protect the ROW following acquisition and relocation.

s. Maintain a complete file, separate from acquisition files, on each displacee and make available to GDOT for immediate inspection.

t. Be responsible for all relocation activities that may occur after title is secured by condemnation.

u. Prepare all correspondence to the displacees or their representatives on GDOT’s approved letterhead.

v. Assist the SAAG with eviction proceedings:
   i. Serve notice of eviction proceedings to the occupants of the property who have not complied with move dates.
   ii. Coordinate the eviction process with the local authorities.
   iii. Accompany the Sheriff’s Department when they are carrying out evictions.
7.3.8.3 DB Team Responsibilities during Closings
The GDOT-assigned SAAG will conduct all closings. For purposes of closing services related to Relocation/Replacement Housing, complete the following items:

1. Ensure Relocation Negotiation Agent attends all relocation closings.
2. Ensure the Relocation Negotiation Agent properly coordinates all assistance payments with the SAAG and GDOT.
3. Provide transportation assistance to all interest holders needing transportation services to and/or from the closing.

7.3.8.4 DB Team Responsibilities during Administrative Appeal
Support the administrative review appeal efforts undertaken by the GDOT when an agreement cannot be reached with a property owner, and complete the following items:

1. Notify GDOT of Acquisition Manager’s final or last contact and submit information to confirm negotiation compliance.
2. Mail the owner a 10-day Administrative Review (Appeal) Letter informing the owner of the impending condemnation and the Review process.
3. GDOT General Office support staff shall mail to the owner an acknowledgement letter confirming receipt of the Administrative Review Request and provide a copy to the DB Team upon receipt of the Appeal Hearing Request from the owner.
4. Submit the Administrative Appeal Package, negotiation parcel file, and other required supporting documents to the GDOT ROW Oversight Manager.

7.3.8.5 DB Team Responsibilities for Condemnation Support
Support condemnation efforts undertaken by the GDOT-assigned SAAG as directed by GDOT and complete the following:

1. Notify GDOT and document the reasons for condemnation, including recommendations for properly obtaining title in consideration of all interest holders.
2. List all interest holders in the condemnation petition including those not listed in the Title Report but are found to be tenants in possession.
3. Coordinate with the assigned SAAG on all applicable eminent domain/condemnation activities in accordance with the policies and procedures as described in the GDOT ROW Manual and as required per State and federal laws.
4. Request an updated title report from the GDOT-assigned SAAG issuing the original title commitment prior to condemnation.
5. Prepare and submit condemnation petitions to the Office of ROW for review by GDOT’s Legal Division and make any revisions or corrections, as requested by GDOT.
6. Forward, upon GDOT approval, petitions to assigned SAAG for recording with the appropriate Clerk of Superior Court.
7. Procure and make available a Condemnation Court Coordinator to do the following:
a. Assist the assigned SAAG in making arrangements for conferences with witnesses prior to trial
b. Appear at court hearings
c. Perform any other duties necessary in eminent domain proceedings

8. Procure appraisals and specialty reports, as required for condemnation proceedings, and as acceptable to GDOT and the assigned SAAG.

9. Procure and make available any necessary expert witnesses as required by GDOT and assigned SAAG. GDOT will make payments to expert witnesses required by SAAG.

10. Arrange for the appearance of all expert witnesses or fact witnesses when requested by the assigned SAAG.

11. Provide GDOT with a parcel status, on a monthly basis, for all condemnation parcels.

12. Provide the assigned SAAG with proper monetary court deposits for Fair Market Value (FMV).

13. Procure the condemnation valuation expert witness as according to the process as defined in the GDOT ROW Manual.

7.3.9  Post-Acquisition Activities

7.3.9.1 Certification and Release


Meet the following conditions to submit a Single-Phase Certification to GDOT:

1. The plans must be approved by GDOT.
2. A statement is required from the State certifying that all individuals and families have been relocated to Decent, Safe, and Sanitary housing or the State has made available to relocatees adequate replacement housing in accordance with Federal Highway Administration directives.
3. All necessary right of way, including control of access rights when pertinent, have been acquired including legal and physical possession.
4. Trial or appeal of cases may be pending in court, but legal possession has been obtained.
5. All occupants have vacated the lands and improvements.
6. The State has physical possession and the right to remove, salvage or demolish these improvements.
7. All Certifications must have the same format and be accompanied by:
   a. Preconstruction Status Report
   b. ROW Project Status Report (TPro)
   c. Relocation Advisory Service Certificate
   d. TPro Relocation Status Report
   e. Right of Way Improvement Status (PM-14)
   f. Trade Fixture and Sign Inventory Report (PM-15)
g. Copies of Right of Entries or Options with Special Stipulations
h. Copy of cover sheet highlighting outstanding parcels

Meet the following conditions, in addition to the above-mentioned conditions, to submit a Multiple-Phase Certification/Release to GDOT:

1. No less than 45 days prior to DB Team’s planned closing date for all or any portion of a constructible segment, submit a Phased/Segmented ROW Certification Release Request for the applicable Group of parcels for GDOT review and approval.

2. GDOT will approve DB Team’s Request for Certificate/Release or alternatively provide the right of entry within seven days of the last parcel of the requested Group of parcels has been closed.

3. If due to an unexpected delay to closing, GDOT and DB Team will work collaboratively to redefine the constructible segment and ROW certification. In that case, GDOT’s approval of DB Team’s certification will not be unreasonably withheld and will be issued within seven days. Without limiting any other conditions to start of construction, GDOT approval of the ROW certification for the applicable portion of the requested Group will be a condition to start of Construction Work within the applicable portion of the constructible segment. GDOT approval will not be unreasonably withheld.

4. Should the parcel go to condemnation, GDOT will approve DB Team’s certification and release parcels within seven days of possession of the property passing to GDOT. Possession of non-relocation parcels pass on the 31st day after petition has been filed, possession of parcels involving the relocation of a displacee pass on 61st day after petition has been filed.

5. If a 32-3-11 is filed, then the possession is deferred until the motion is resolved.

7.3.9.2 DB Team Responsibilities for Clearance of ROW

Provide to GDOT photographs of the property and all improvements, and other necessary documentation as applicable per the GDOT ROW Manual prior to removal or demolition of any buildings, improvements, and/or fixtures. Also provide photos of property and items of dispute in and of a quality suitable for presentation as evidence in court. Following possession of any improved property ROW, complete the following:

1. Coordinate all property management activities with the GDOT ROW Property Management Demolition/Removal Unit.

2. Comply with all required government jurisdictions.

3. Secure and protect the buildings, improvements, and fixtures on the ROW until they are disposed of or demolished. DB Team shall board-up, mow, and winterize as required by GDOT or other governmental applicable laws.

4. Coordinate with owners and occupants to ensure the clearance of personal property from the ROW has occurred.

5. Provide for any insect and rodent control and initiate extermination as required to protect the adjacent properties and rid the ROW from infestations.
6. Secure all appropriate Governmental Approvals required for demolition or removal of improvements. Secure any environmental surveys or tests as may be required by local, State, and/or federal jurisdictions. Notify GDOT in writing of all such activities.

7. Prepare necessary documentation for disposal of improvements, fixtures, and buildings in accordance with applicable laws and submit the same to GDOT.

8. Properly disconnect all Utility services including, but not limited to power, water, gas (meter pulls), and sewer (sewer caps), at the back of the required ROW at a minimum, prior to any demolition or removal of any buildings, improvements, and/or fixtures. The exact location of these Utility disconnects shall be given to the GDOT ROW Property Management Demolition/Removal Unit in a format that can be used to easily locate them in the field (e.g., Northing/Easting, parcel number).

9. Process all required forms, documents, and permit applications in order to proceed with the timely demolition or removal of any improvements, buildings, and fixtures.

10. Properly notify GDOT ROW property management upon completion of the demolition and clearance of all buildings, improvements, and/or fixtures.

7.3.9.3  DB Team Responsibilities for Property Fencing

Comply with GDOT Policy and the 2009 International Building Code, 2009 Edition – International Code Council, as well as, the specifications found in the GDOT Standard Specifications, and any supplemental specifications. Comply with applicable sections of GDOT’s Design Policy Manual on fencing. Ensure fencing standards for DB Team-provided fencing conform to the overall aesthetics requirements found elsewhere in these DB Documents and referenced standards. Ensure all fencing installed is preapproved by GDOT prior to installation.

7.3.10  Schedule and Reviews

Comply with the requirements in Section 7.3.9 (Post Acquisition Activities) and this Section 7.3.10.

7.3.10.1  Schedule

The Project Schedule must indicate the date to begin the acquisition activities of the State Proposed/DB Team Acquired ROW and the anticipated completion date of acquisition activities for each parcel. Ensure acquisition activities noted between Start and Complete comply and are in conformance with applicable State and/or federal laws and regulations, 49 CFR § 24 – the Uniform Act, FHWA and/or GDOT policies and procedures. In developing the Project Schedule, give priority to the acquisition of parcels that have significant impact on the Project Schedule and/or affect the Critical Path (i.e., relocation parcels, parcels with improvements, and property management). Advise GDOT of all DB Team Proposed/DB Team Acquired ROW and temporary rights or interests in real property to be acquired by DB Team.

7.3.10.2  GDOT and/or FHWA Reviews

In developing the Project Schedule, incorporate the following applicable time periods or GDOT and/or FHWA reviews:

1. ROW plans approval by GDOT and/or FHWA: 45 days
2. ROW plan revisions approval by GDOT: 15 days
3. Assignment of review appraiser: 10 days
4. Revised Conceptual Stage Study review, if needed: 30 days
5. Parcel Specialty Reports review: 15 days
   Note: No more than eight Parcel Specialty Reports can be submitted to GDOT for review within a 15-day period.
6. Appraisal review: 30 days
   Note: No more than eight Parcel Appraisal Packages can be submitted to GDOT for review within a 15-day period.
7. Relocation benefits package check review: 30 days
   Note: No more than four relocation benefits packages can be submitted to GDOT for review within a 15-day period.
8. Review and provide disposition of the proposed Negotiation settlement offer, to include settlement amount: 10 days
9. Review Administrative Review (appeals) package: 15 days
   Note: No more than four Administrative reviews can be submitted to GDOT within a 30-day period.
10. Administrative Review proceedings by GDOT: within 45 days of approval of the Appeals package
11. Review of Condemnation Petition Request package: 30 days
    Note: No more than eight Condemnation Petition Request packages can be submitted to GDOT for review within a 30-day period.
12. Review of Condemnation Petition package and filing: 30 days
    Note: No more than eight Condemnation Petition packages can be submitted to GDOT for review and filing within a 30-day period.

The revised Proposed ROW Plan for Additional Properties will be coordinated with the development of the Construction Phasing and Staging Plan. The DB Team’s Proposal Schedule and the Baseline Project Schedule must account for all newly proposed parcel acquisition and provide a Project Schedule activity for each parcel.

GDOT and/or FHWA will not begin review until the Submittal package is complete. If any Submittal is determined by GDOT to be incomplete or to be revised, the Submittal will be returned and the timeframe given above will start over for each re-submittal.

Schedule delays resulting from inadequate or incomplete appraisals, specialty reports, ROW Plans, negotiation packages, relocation packages, and condemnation petitions, are be the responsibility of DB Team.
7.4 Construction Requirements
No requirements.

7.5 Deliverables

7.5.1 Final ROW Plans

7.5.2 Updated Acquisition Plan

7.5.3 Single or Multi-Phase Certification

As indicated in this Section 7 and in Section 3 (Design and Submittals).
8 GEOTECHNICAL

8.1 General
Perform all geotechnical investigations, testing, research, and analysis necessary to effectively determine and understand the existing surface and subsurface geotechnical conditions. Ensure the geotechnical investigations and analyses are both thorough and complete, so as to provide accurate information for the design of roadways, pavements, foundations, structures, and other facilities that result in a Project that is safe and meets operational standards.

All geotechnical reports, provisions, and recommendations developed by the DB Team and accepted and/or concurred by GDOT will be part of the Project's design and endorsed by the EOR.

8.2 Administrative Requirements

8.2.1 Standards
Construct and maintain roadway pavements in conformance to GDOT’s Pavement Design Manual and GDOT policies and procedures.

Perform all other geotechnical Work in general conformance with GDOT’s Geotechnical Engineering Manual and guidelines, AASHTO guidelines, and Attachment 3-1 (Manuals), and other provisions of the DB Documents.

8.3 Design Requirements

8.3.1 Subsurface Geotechnical Investigation by the DB Team
Determine the specific locations, frequency, and scope of all subsurface geotechnical investigations, testing, research, and any analysis the DB Team considers necessary to provide a safe and reliable roadway, pavement, foundation, structure, and other facilities for the Project.

Prepare and amend, as needed, Geotechnical Engineering Reports as described later in this Section 8 documenting the assumptions, conditions, and results of the geotechnical investigation and analysis, including the following:

1. The geology of the Project area, including soil and/or rock types, and drainage characteristics.
2. Field investigations and laboratory test results used to characterize engineering and physical properties of soil and rock, including moisture content, plasticity index, gradations for each major soil strata change, levels of shrink/swell potential soil compressibility, and short-term and long-term settlement/ consolidation, strength tests and engineering properties; recording rock recovery and rock quality designation in the field in addition to laboratory tests to determine compressive and split tensile strength tests of rock cores.
3. A discussion of conditions and results with reference to specific locations on the Project, including a dewatering plan and impacts on near-by structures.
4. Design and construction parameters resulting from the geotechnical investigation and analysis, including parameters for the design of pavements, pipes, foundations, structures, slopes, and embankments.

5. Plan view locations of field sampling, profile of boring logs and other field data, laboratory test results, calculations, and analyses that support design decisions taking into consideration down-drag on piles and soil squeeze in high embankments.

6. Include the slope stability analysis for embankment and excavation slopes including both short-term (undrained) and long-term (drained) conditions, and discussion of design measures undertaken to ensure stability and safety of all slopes. Ensure the analysis considers the potential for long-term surficial slide failures common to high plasticity clays in Georgia, and specific recommendations are provided to minimize their occurrence. Internal and external stability analysis shall be considered for walls supporting fill/cut within the Project.

Submit each Geotechnical Engineering Report upon completion, along with back-up of calculations and input and output of GDOT recognized computer software to GDOT for review and comment as a Submittal.

If environmentally-sensitive conditions such as undocumented contaminated soil or archaeological sites are encountered during the subsurface exploration activities, notify GDOT immediately. For hazardous materials, also follow the requirements in Volume 1, Article 7.8 (Hazardous Materials Management) and in GDOT Standard Specification 107.22.

### 8.3.2 Bridge Foundation Investigation (BFI)

Perform a BFI for each bridge in the Project. The BFI report and all recommendations must be reviewed and endorsed by the EOR.

#### 8.3.2.1 Pile Foundation

1. Design and construct the pilings in accordance with all related special provisions per the accepted Bridge Foundation Investigation recommendations.

2. All piles must be embedded a minimum of 10 feet into natural ground and 10 feet below 500-year scour line with additional length determined by the lead Professional Engineer for geotechnical design.

3. Piles should have minimum embedment in the following materials:

<table>
<thead>
<tr>
<th>Material and Density</th>
<th>Recommended Minimum Embedment</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 – to 20 – blow count soil</td>
<td>15 feet</td>
</tr>
<tr>
<td>40 – to 50 – plus blow count soil</td>
<td>10 feet</td>
</tr>
<tr>
<td>Hard rock (requires pilot holes)</td>
<td>5 feet</td>
</tr>
</tbody>
</table>

4. Pile tips must be set below any soft/loose soils that may settle/consolidate under the design load unless the soft/loose soils are at least deeper than five pile diameters below the pile tip.
5. When piles must penetrate rock to provide the minimum embedment, use pilot holes drilled a minimum of five feet into the rock.

8.3.2.2 Drilled Caisson

1. Design and construct the drilled caissons in accordance with Special Provision 524 per the approved Bridge Foundation Investigation recommendations.

2. When sound rock is encountered, drilled caissons must be embedded a minimum of 10 feet into sound rock as defined by Special Provision 524.3 or per the approved Bridge Foundation Investigation (BFI) recommendations.

8.3.2.3 Spread Footings

1. Top of footing must be a minimum of two feet below the top of final grade.

2. Spread Footings should bear below the scour line, if applicable.

8.3.3 Dynamic Pile Testing

Perform dynamic pile testing using the Pile Driving Analyzer (PDA) to monitor the driving of piles with accelerometer and strain gauges attached to the piles. Perform a minimum of two PDAs (one for the abutment and one for the intermediate bents), but no less than two percent of the production piles, and additional PDAs will be required for a change in bent type, change in abutment, change in geotechnical material, or as determined by the EOR. Perform the dynamic pile testing in accordance with ASTM D4945-08 and Special Provision 523 per the approved Bridge Foundation Investigation recommendations.

Upon completion of a PDA test, provide a complete report consisting of but not limited to PDA field monitoring data, results of Case Pile Wave Analysis Program (CAPWAP) computer analyses, and the driving criteria recommendation from the geotechnical engineer who developed the BFI. The recommendation must be endorsed by the EOR. Submit the report electronically in PDF format and the electronic data files of the PDA analysis and CAPWAP to GDOT and allow seven days for review and acceptance before proceeding with driving production piles.

8.3.4 Soil Survey (SS)

Perform a Soil Survey (SS) for all Projects that include the design of roadway foundations, embankments, and the treatments for geotechnical and related problems on the Project in conformance with the GDOT Geotechnical Engineering Manual and Attachment 3-1 (Manuals). The EOR shall review and endorse the SS report and all recommendations.

8.3.5 Pavement Design

Comply with the required minimum pavement design provided in Section 11 (Roadways).

If pavement design has not been previously provided by GDOT, then prepare a pavement design report that confirms or revises the required minimum pavement design provided in Section 11 (Roadways). Ensure the pavement design report documents the assumptions, considerations, and decisions contributing to the Project’s pavement design and meet all requirements of GDOT’s Pavement Design Manual.
For roadways adjacent to and crossing the Project that are disturbed by the construction activities of the Project:

1. Match the in-place surface type and structure of the existing roadways at a minimum.
2. Construct all new shoulders as full depth shoulders unless otherwise specified in Volume 2.
3. Design all tie-in Work to avoid differential settlement between the existing and new surfaces.
4. Coordinate the design and construction of all cross roads with the Governmental Entity having jurisdiction whether a municipality, county, or GDOT.

8.3.6 Wall Foundation Investigation (WFI)
Perform a WFI for each wall in the Project that includes wall structures in conformance with the GDOT Geotechnical Engineering Manual, AASHTO guidelines, and Attachment 3-1 (Manuals) for all new walls and wall extensions. The EOR shall endorse the WFI report and all recommendations.

8.3.7 High-Mast Lighting Foundation
Perform a high-mast light foundation investigation and provide a Geotechnical Investigation (also referred to as HMLFI or HMI) report to determine the foundation type to be used at each high-mast light tower location. As part of the report, assess minimum foundation embedment depth required for overturning resistance and the need to address groundwater if present at the proposed tower location.

Prepare the high-mast lighting foundation investigation in conformance with the GDOT Geotechnical Engineering Manual, AASHTO LRFD guidelines, and Attachment 3-1 (Manuals) for all new high mast lighting foundations and include endorsement by the EOR.

8.4 Construction
Ensure that materials used to construct the Project meet the minimum requirement as specified in GDOT specifications, policies and procedures, guidelines, and Attachment 3-1 (Manuals). Ensure all materials used to construct the Project conform to the requirements of the GDOT Qualified Products List (QPL) or equivalent as approved by GDOT. Personnel possessing the requisite GDOT materials certifications will perform testing of materials.

Assume responsibility for obtaining and complying with all Governmental Approvals for construction of the Project.

Submit to GDOT for review and acceptance any blasting plan(s). Perform blasting in accordance with State Law, and in accordance with GDOT’s specifications, policies and procedures.

8.5 Deliverables
As indicated in this Section 8 and in Section 3 (Design and Submittals).
9 SURVEYING AND MAPPING

9.1 General
Provide accurate and consistent land surveying and mapping necessary to support ROW acquisition, design, and construction of the Project. The DB Team is responsible for all surveying responsibilities.

Review existing survey data and determine the requirements for updating or extending the existing survey and mapping data. The DB Team is responsible for the final precision, accuracy, and comprehensiveness of all survey and mapping.

9.2 Administrative Requirements

9.2.1 Standards
Provide surveying and mapping activities in accordance with the GDOT Automated Survey Manual and Attachment 3-1 (Manuals), and other provisions of the DB Documents.

9.2.2 Ownership
The documents produced by the DB Team surveyor or the surveyor’s subcontractors are the property of GDOT and release of any such document must be approved by GDOT.

9.2.3 Property Owner Notification
Prepare for GDOT review and acceptance a property owner notification letter in accordance with the GDOT Automated Survey Manual prior to entering any private property outside the Existing ROW.

9.3 Design Requirements

9.3.1 Units
Perform all survey Work in U.S survey feet. Ensure the Work conforms to state plane coordinates.

Ensure the combined sea level and scale factor for the Project conforms to the GDOT Automated Survey Manual.

9.3.2 Survey Control Requirements
Ensure that all surveying conforms the Georgia Professional Land Surveying Practices Act, follows the General Rules of Procedures and Practices of the Georgia Board of Professional Engineers and Land Surveying, and otherwise conforms to all applicable Law. Ensure that any person in charge of the survey is proficient in the technical aspects of surveying and is a Professional Land Surveyor (Surveyor).

Establish all horizontal and vertical primary Project control from approved control provided by GDOT. Meet the guidelines as defined in the GDOT Automated Survey Manual if using GPS methods.
Establish and maintain additional survey control as needed and final ROW monumentation throughout the duration of the Project.

Tie any additional horizontal and vertical control for the Project to the established primary Project control network.

Set and/or verify by a Professional Land Surveyor all survey control points.

Establish and maintain a permanent horizontal and vertical primary survey control network. Ensure the control network consists of, at minimum, horizontal deltas coordinated and elevated set in intervisible pairs at spacing of no greater than 1 mile. Install control monuments per the GDOT Automated Survey Manual.

Provide to NOAA, in coordination with GDOT, notification of planned activities that will disturb or destroy any geodetic control monuments at least 90 days prior to construction. This provides time to plan for and execute relocation of geodetic monuments.

Replace all existing horizontal and vertical primary survey control points disturbed or destroyed. Make all survey computations and observations necessary to establish the exact position and elevation of all other control points based on the primary survey control.

Deliver to GDOT a survey control package in accordance with the criteria in the GDOT Automated Survey Manual, as well as a revised survey control package when survey monuments or control points are disturbed, destroyed or found to be in error.

### 9.3.3 Conventional Method (Horizontal & Vertical)

Meet the accuracy of the appropriate level of survey as defined in the GDOT Automated Survey Manual if using conventional methods to establish additional horizontal control.

#### 9.3.3.1 Horizontal Accuracy Requirements for Conventional Surveys

Horizontal control is to be established on the Georgia State Plane Coordinate System of 1985 [NAD83 or GCS 85], at a minimum.

Upon request, GDOT will compile and provide to the DB Team a survey control package of existing GDOT approved survey monumented data in the Project vicinity.

#### 9.3.3.2 Vertical Accuracy Requirements for Conventional Surveys

Establish vertical control on the North American Vertical Datum of 1988 (NAVD 1988) as shown in Table 9-1.
Table 9-1: North American Vertical Datum of 1988

<table>
<thead>
<tr>
<th></th>
<th>1st Order</th>
<th>2nd Order</th>
<th>3rd Order</th>
<th>Remarks and Formulae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error of Closure</td>
<td>0.013 feet √M</td>
<td>0.026 feet √M</td>
<td>0.049 feet √M</td>
<td>Loop or between control monuments</td>
</tr>
<tr>
<td>Maximum Length of Sight</td>
<td>250 feet</td>
<td>300 feet</td>
<td></td>
<td>With good atmospheric conditions</td>
</tr>
<tr>
<td>Difference in Foresight and Backsight Distances</td>
<td>±10 feet</td>
<td>±20 feet</td>
<td>±30 feet</td>
<td>Per instrument set up</td>
</tr>
<tr>
<td>Total Difference in Foresight and Backsight Distances</td>
<td>±20 feet per second</td>
<td>±50 feet per second</td>
<td>±70 feet per second</td>
<td>Per total section or loop</td>
</tr>
<tr>
<td>Recommended Length of Section or Loop</td>
<td>2.0 miles</td>
<td>3.0 miles</td>
<td>4.0 miles</td>
<td>Maximum distance before closing or in loop</td>
</tr>
<tr>
<td>Maximum Recommended Distance Between Benchmarks</td>
<td>2000 feet</td>
<td>2500 feet</td>
<td>3000 feet</td>
<td>Permanent or temporary benchmarks set or observed along the route</td>
</tr>
<tr>
<td>Level Rod Reading</td>
<td>± 0.001 foot</td>
<td>± 0.001 foot</td>
<td>± 0.001 foot</td>
<td></td>
</tr>
<tr>
<td>Recommended Instruments and Leveling Rods</td>
<td>Automatic or tilting w/ parallel plate micrometer precise rods</td>
<td>Automatic or tilting w/ optical micrometer precise rods</td>
<td>Automatic or quality spirit standard, quality rod</td>
<td>When two or more level rods are used, they should be identically matched</td>
</tr>
<tr>
<td>Principal Uses</td>
<td>Broad area control, subsidence or motion studies jig and tool settings</td>
<td>Broad area control, engineering projects basis for subsequent level work</td>
<td>Small area control, drainage studies, some construction and engineering</td>
<td></td>
</tr>
</tbody>
</table>

9.3.4 Reserved

9.3.5 Right of Way Surveys

Base all surveys on the primary horizontal and vertical control network established for the Project.
9.3.5.1 Accuracy Standard

Ensure the accuracy standards of the appropriate level of survey as defined in the following table are met when performing ROW surveys consisting of boundary locations.

<table>
<thead>
<tr>
<th>Table 9-2: Chart of Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Error of Closure</td>
</tr>
<tr>
<td>Adjusted Mathematical Closure of Survey (No Less Than)</td>
</tr>
</tbody>
</table>

*GDOT policy requires all bearings or angles be based on the following source: Grid bearing of the Georgia Coordinate System of 1985, with the proper zone and epoch specified.

9.3.6 Survey Records and Reports

Use electronic field books to collect and store raw data if necessary. Preserve original raw data and document any changes or corrections made to field data such as station name, height of instrument, or target, as well as raw and corrected field data in hardcopy output forms in a similar manner to conventional field books for preservation.

Record field survey data and sketches that cannot be efficiently recorded in the electronic field volume in a field note volume and store with copies of the electronic data.

Record all field notes in permanently bound books (loose leaf field notes are allowed). Deliver copies of any or all field note volumes to GDOT upon request.

The documents produced by the Surveyor, or the Surveyor’s subcontractors, are the property of GDOT, and release of any such document must be approved by GDOT prior to release.

Provide all created topographic mapping to GDOT in digital terrain model format using the software and version thereof being used by GDOT at the time of delivery.

9.4 Construction Requirements

9.4.1 Construction Surveys

Comply with the requirements in Section 9.3 (Design Requirements).

9.4.2 ROW Monuments

Comply with the requirements in Section 9.3 (Design Requirements).

Upon completion of the ROW acquisition and all Construction Work, such that the Final ROW monuments are disturbed by construction, set permanent and stable concrete ROW monuments (constructed according to current GDOT specifications) located on the final ROW line at all points of curvature (PCs), points of tangency (PTs), points of intersection (PIs), miters and breaks, points of compound curvature (PCCs), points of reverse curvature (PRCs), and all intersecting crossroad ROW lines.
Set permanent and stable concrete ROW monuments (constructed according to current GDOT specifications) located on all final ROW lines where the distance between such significant ROW line points exceeds 1,500 feet at no more than 1,000-foot intervals.

Purchase all materials, supplies, and other items necessary for proper survey monumentation.

### 9.4.3 Side-scan Sonar Surveys

No requirements.

### 9.5 Deliverables

As indicated in this [Section 9](#) and in [Section 3](#) (Design and Submittals).
10 GRADING

10.1 General
Conduct all Work necessary to meet the requirements of grading, including clearing and grubbing; excavation and embankment; removal of existing buildings, pavement, and miscellaneous structures; subgrade preparation and stabilization; dust control; aggregate surfacing; and earth shouldering.

10.2 Administrative Requirements
10.2.1 Standards
Provide grading activities in accordance with Attachment 3-1 (Manuals) and other provisions of the DB Documents.

10.3 Design Requirements
Ensure that all borrow, stockpile, and waste sites for this Project are environmentally approved prior to construction activities occurring in them. Place all common fill or excess material disposed of outside Project Right of Way in either a permitted solid waste facility, a permitted inert waste landfill, or in an engineered fill. See GDOT Standard Specifications Construction of Transportation Systems, Special Provisions, and Supplemental Specifications for additional information.

Do not dispose of existing bridge and construction debris within the Project. Provide an environmentally approved site to dispose the existing bridge and/or construction debris at no additional cost to GDOT.

Notify GDOT of any non-permitted encroachment in the existing right of way. Do not take any action to remove the encroachment without GDOT approval.

10.3.1 Removal and Disposal of Material
There is no known suitable place to bury existing bridge/construction debris within the Project Site. Provide an environmentally approved site as shown in Standard Specification 201 to dispose the existing bridge and/or construction debris at no additional cost to GDOT.

The material from structures designated for demolition is the DB Team’s property. Properly dispose of all material removed outside the limits of the Project.

10.3.2 Demolition and Abandonment Plan
Develop, implement, and maintain, for the Term, a Demolition and Abandonment Plan for all existing structures, features, and Utilities including types and sizes, as described in Section 10.4 (Construction Requirements) that will be removed, abandoned or partially abandoned during the Term. Ensure the plan provides that said structures are structurally sound after the abandonment procedure and shows with sufficient detail for the Abandonment the locations of all existing features as listed in Section 10.4.
10.3.3 Detours
Maintain all detours. Provide a pavement transition, required in accordance with AASHTO’s Roadside Design Guide, GDOT guidelines, and the MUTCD, based on the roadway design speed of the section, at all detour interfaces.

Notify GDOT District/Area Office, all local county representatives, first responders, and school systems 30 days prior to implementing any detours.

10.3.4 Slopes and Topsoil
Comply with Attachment 3-1 (Manuals) regarding design limitations and roadside safety guidelines associated with the design of slopes along roadways. Adjust grading to avoid and minimize disturbance to the identified waters of the U.S. Ensure the grading plan is in accordance with the approved Environmental Documents. Secure all associated Governmental Approvals to meet the Released for Construction (RFC) plans.

Perform finished grading and place topsoil in all areas suitable for vegetative slope stabilization (and areas outside the limits of grading that are disturbed during the Work) that are not paved.

10.3.5 Special Flood Hazard Areas Fill Mitigation
No requirements.

10.4 Construction Requirements
Remove any features that are abandoned in place (e.g., parking lots, abandoned pavements, sidewalks, driveways, catch basins, drop inlets, pipes, manholes, curbing, retaining walls, utilities, foundations, paved floors, underground tanks, fences, bridges, buildings, and other incidental structures to the following depths):

1. **Abandoned pavements**: Obliterate, grade to drain, and grass existing pavement inside the Project that is no longer being used.

2. **Abandoned pipes**: Ensure abandoned pipes that are left in place are grout filled or filled with flowable fill.

3. **Under pavements**: Remove to a depth of at least three feet below the finished subgrade elevation.

4. **Underneath other structures**: Remove to at least three feet below the foundations of any proposed structure, including installations such as guard rail posts and utility poles.

5. **Elsewhere within the ROW and easement areas, remove as follows**: Remove to at least three feet below the finished surface of slopes and shoulders and 1 foot below natural ground outside construction lines.

Thoroughly crack or break abandoned structures that may impound water. These structures include, but are not limited to, concrete floors, basements, catch basins, and other structures within 10 feet of finished grade.

Break floors so that no section greater than 10 square feet remains intact.
10.5 Deliverables

As indicated in this Section 10 and in Section 3 (Design and Submittals).
11 ROADWAYS

11.1 General
Coordinate roadway design, construction, maintenance, and operation with all other Work planned or under construction by GDOT and/or Governmental Entity.

11.2 Administrative Requirements

11.2.1 Standards
Provide activities in this section in accordance with GDOT Standard Specifications, Construction of Transportation Systems, other Attachment 3-1 (Manuals), and other provisions of the DB Documents.

11.3 Design Requirements

11.3.1 Overview
Coordinate roadway design with the design of all other components of the Project. Design the Project roadways to integrate with streets and roadways that are adjacent or connecting to the Project.

Design the Project roadways to incorporate roadway appurtenances, including fences, noise attenuators, barriers, and hazard protection as necessary to promote safety and to mitigate visual and noise impacts on neighboring properties.

Design and construct any and all proposed intersection reconstruction or rehabilitation to meet the requirements of the Environmental Document Approvals and Attachment 3-1 (Manuals).

11.3.2 Design Criteria Order of Precedence
Adhere to the following requirements for the design of the Project. The plans provided in the Reference Information Documents are provided for reference only and may contain or conform to some but not all of the design requirements herein. In the event of any conflict, ambiguity, or inconsistency among the following design criteria, the order of precedence, from highest to lowest, one being higher than two, is as follows:

1. Allowable Design Exceptions, Design Variances, and Design Deviations as set forth in Section 11.3.4 (Allowable Design Exceptions, Design Variances, and Design Deviations)
2. Attachments (Technical Provisions)
3. Other Volume 2 provisions
4. Technical Manuals (Attachment 3-1)

11.3.3 Typical Sections and Pavement Design
Comply with Attachment 11-1 (Roadway Design Criteria).

Ensure all new pavement for the Project meets, at a minimum, the pavement designs identified in the table(s) in Attachment 11-2 (Pavement Designs). Micromill and overlay will be allowed to
remove existing striped lane drop and the realignment of the existing two general purpose lanes at the southern limits of the Project.

Where median widths are 64’ or greater, end concrete median and begin a depressed median, as specified in the AASHTO Green Book and GDOT Design Policy Manual (Section 6.12.1).

In addition to the above requirements, design and construct a median barrier gate and a median cross over for I-85 at the locations within the project limits shown in Attachment 11-3 (Median Barrier Location Map). This gate will be automated (electrically powered) with a minimum 40-foot opening. This gate will meet the requirements of the National Cooperative Highway Research Program (NCHRP) Report 350 test level 3 or greater.

11.3.3.1 Crossing Streets
Coordinate, design, and construct the improvements on crossing streets in accordance with the requirements of the Governmental Entity having jurisdiction of said roadway.

11.3.3.2 Roadside Safety
All roadside safety devices used on the Project shall meet current crash test and other safety requirements that meet or exceed current GDOT requirements. The DB Team shall construct MASH compliant cast in place barriers complying with Attachment 3-2 (Concrete Barrier Special Provision 621) and Attachment 3-3 (Special Details - Parapet and Barriers).

Ensure that all roadside safety devices used on the Project meet NCHRP 350 test criteria and other safety requirements that meet or exceed current GDOT requirements.

11.3.3.3 Pavement Joints
Include in staged construction consideration of using pavement construction widths that don’t force the final roadway surface to have longitudinal joints in the wheel path.

Do not design or construct longitudinal pavement joints in the wheel path of the traveling public unless specifically approved by GDOT in writing.

11.3.3.4 Intersection Reconstruction or Rehabilitation
Design and construct all proposed intersection reconstruction or rehabilitation to meet the requirements of the Environmental Document Approvals and Attachment 3-1 (Manuals).

11.3.3.5 Concrete Usage
Use concrete paving in hard to reach mowing areas or under structures (such as, but not limited to, sign posts, bent columns, next to retaining walls, freeway ramp gores, paved ditches, flumes, ditch inlets, etc.) to improve roadway appearance.

11.3.3.6 Barriers
Remove and upgrade all existing guardrail within the project limits that is not otherwise being removed or replaced.

The DB Team shall salvage all removed cable barrier, posts, and guardrail. These salvaged items shall be delivered to the Jackson County Maintenance Headquarters located at 369
Airport Road, Jefferson, GA 30549. Call the District Maintenance Engineer at 770-531-5729 a minimum of forty-eight (48) hours in advance to coordinate delivery.

Install cable barrier for all sections with a depressed median. Install new end terminals as required to ensure cable barrier remains in operation at all times when construction impacts existing cable barrier that will remain in place. Install temporary concrete barrier in the same general location as the existing cable barrier for the full length impacted, including approaches, if existing cable barrier cannot remain in operation during construction.

See Attachment 11-1 (Roadway Design Criteria) for additional roadway design requirements. Refer to Section 3.2.2 (GDOT Standards and Manuals) regarding requirements for barriers.

11.3.4 Allowable Design Exceptions, Design Variances, and Design Deviations
The following Design Exceptions, Design Variances, and Design Deviations are allowable on the Project subject to FHWA & GDOT approval.

1. The minimum length of horizontal curve at the following locations:
   a. Design Deviation 01 (I-85 Curve 1, Curve 3, and Curve 4): The proposed length of horizontal curve may be 2010 feet at approximate mile post 131.0, 1868 feet at approximate mile post 134.4, and 542 feet at approximate mile post 135.1 respectively, which are shorter than the minimum length of 2100 feet, to maintain the existing I-85 centerline alignment.
   b. Design Deviation 02 (I-85 NB Curve 1, Curve 3, and Curve 4): The proposed length of horizontal curve may be 2002 feet at approximate mile post 131.0, 1894 feet at approximate mile post 134.4, and 547 feet at approximate mile post 135.1 respectively, which are shorter than the minimum length of 2100 feet, to maintain the existing I-85 NB centerline alignment.
   c. Design Deviation 03 (I-85 SB Curve 1, Curve 3, and Curve 4): The proposed length of horizontal curve may be 2019 feet at approximate mile post 131.0, 1881 feet at approximate mile post 134.4, and 1121 feet at approximate mile post 135.1 respectively, which are shorter than the minimum length of 2100 feet, to maintain the existing I-85 SB centerline alignment.
   d. Design Deviation 04 (NB Exit to SR 11) Curve 1 at approximate mile post 136.5: The proposed length of horizontal curve may be 241 feet which is shorter than the minimum length of 825 feet to maintain the existing ramp alignment.

2. The inside paved shoulder widths on the I-85 under crossroad bridges at the following locations:
   a. Design Variance 01: Under the existing SR 60 overpass bridge, which will be retained under this project: On I-85, in both directions, the inside paved shoulder will narrow to 10.167 feet because of the added median barrier width for the bridge column and concrete side barriers.
b. Design Exception 01: Under the proposed SR 332 overpass bridge, which will be replaced under this project: On I-85, in both directions, the inside paved shoulder will narrow to 9.667 feet because of the added median barrier width for the bridge column and concrete side barriers.

c. Design Exception 02: Under the existing SR 11/US 129 overpass bridge, which will be retained under this project: On I-85, in both directions, the inside paved shoulder will narrow to 9.667 feet because of the added median barrier width for the bridge column and concrete side barriers.

3. The inside paved shoulder widths on I-85 at overhead signs at the following locations:

a. Design Variance 02: At the proposed Type I overhead sign on I-85 Northbound at the north end of the project (exact location to be determined by the Design-Build team). On I-85, in the northbound direction, the inside paved shoulder will narrow to 10.75 feet because of the added median barrier width for the overhead sign support and concrete side barriers.

b. Design Variance 03: At the proposed overhead DMS sign on I-85 Northbound at the north end of the project (exact location to be determined by the Design-Build team). On I-85, in the northbound direction, the inside paved shoulder will narrow to 10.75 feet because of the added median barrier width for the overhead sign support and concrete side barriers.

c. Design Variance 04: At the proposed overhead DMS sign on I-85 Southbound at the north end of the project (exact location to be determined by the Design-Build team). On I-85, in the southbound direction, the inside paved shoulder will narrow to 10.75 feet because of the added median barrier width for the overhead sign support and concrete side barriers.

No additional Design Exceptions or Design Variances proposed by the DB Team are allowed. Upgrade any existing conditions within the Project limits that do not meet the requirements of either the AASHTO Controlling Criteria or the GDOT Design Policy Manual to meet the Project requirements.

Additional Design Deviations that are present within the existing conditions may be retained. Design Deviations that are identified within the Project limits and that are intended to be retained in the Project must be presented to GDOT.

11.3.5 Permanent Lighting

No requirements.

11.3.6 Replacement Fencing

Replace fence type in accordance with GDOT's Construction Standards and Details. Submit to GDOT for approval prior to construction the type of proposed fence should the existing type of fence not match the type provided in GDOT's Construction Standards and Details.
11.3.7 Related Transportation Facilities

No requirements.

11.3.8 Design Requests from Adjacent Property Owners

If the DB Team receives any design requests from adjacent property owners, produce a report to GDOT within 30 days of receipt of each design request that identifies the following:

1. The nature of the request
2. Any financial consequences to GDOT of compliance
3. The DB Team’s assessment of the feasibility of compliance
4. Any Change Requests from the Technical Provisions that would be required
5. Any potential risks to GDOT that may arise from implementation of the design request such as environmental and permitting risks

Proceed with the implementation of the design request at its option only if no financial consequences to GDOT, time impacts to the project, or Change Requests from the Technical Provisions exist, and if GDOT raises no objection within 30 days of the design request report. Advise GDOT in writing of the decision.

11.3.9 Additional Roadway Design Requirements

When guardrail is required on interstates, freeways, and other four-lane roadways, shoulder paving shall be extended beyond the usable paved shoulder to the face of guardrail to conform to GDOT Standards and Details. Match the pavement section of the adjacent shoulder.

Assist GDOT with inspection, if requested by GDOT, of existing pavement to be retained and/or existing pavement adjacent to new construction within the Project, including providing staffing and resources for the inspections, including, maintenance of traffic, providing escort vehicle, clearing debris, and adequate room for the inspection activities.

Crash cushions/impact attenuators for all locations requiring crash cushions/impact attenuators shall be designed and installed as low maintenance and/or self-restoring attenuators. Proposer shall use products listed on the GDOT Qualified Products List (QPL) QPL-64.

11.4 Construction Requirements

11.4.1 Vibration Control

The DB Team is responsible for all vibration-related damages to existing structures or other facilities located in the vicinity of construction related activities. Evaluate potential impacts and develop a Vibration Control Plan for GDOT review and acceptance where vibration-inducing construction activities are to be performed in the vicinity of existing properties, structures, utilities, or other facilities. Include in the plan certain triggers of action to ensure no damage to existing structures occur, as well as a means to resolve public concerns for the vibration at any level. If the evaluation results in no potential impacts, the DB Team will provide a letter to GDOT stating no Vibration Control is required on this project. Additional requirements for the Vibration Control Plan are as follows:
1. Use attenuation relationships published by applicable governmental agencies and/or applicable equipment manufacturers to estimate the zones within which vibrations caused by the Project may impact existing properties and facilities.

2. Conduct site reconnaissance of properties during site investigations to determine the sensitivity of each structure/facility to vibrations within the zone of potential vibration impacts.

3. List all properties that may be adversely affected by vibrations.

4. Conduct a preconstruction survey of each structure determined to be susceptible to vibrations.

5. Provide GDOT with recommendations to mitigate that may be adversely affected by vibrations.

6. Use the vibration monitoring records to develop attenuation curves for predicting vibrations at varying distances from the source.

Adjust operations immediately if the threshold readings above are exceeded.

11.4.2 Blasting


11.4.3 Control of Access

Maintain all existing property accesses, including those not shown on the schematic, and do not revise control of access without GDOT review and the written agreement of the affected property owner. Ensure access control is in conformance with the GDOT Regulations for Driveway and Encroachment Control.

11.4.4 Pavement Cutting

Obtain prior approval from GDOT for any open cutting (removal of pavement to construct, repair, or relocate utilities/drainage structures or for any purposes that cause a full depth cut of existing pavement and removal of any subgrade beneath) of the Travel Lane pavements or ramp. Repair in kind any pavement that is open cut as described in this paragraph prior to the Travel Lane or ramp being opened to traffic.

11.4.5 Stockpiling

The stockpiling of materials may be permitted on a case by case basis provided that participation is based on the appropriate value of approved specification materials delivered by the DB Team to the Project Site, or other designated location in the vicinity of the Project and the terms and conditions below. Stockpiled materials that may qualify for material allowances include materials that are not readily available, can be easily identified and secured for this Project, and can be stockpiled for long periods without detriment. Use the procedure identified in GDOT Supplement Specification 109.07.B to process a Material Allowance Request. Other provisions include:
1. Construct stockpiles in conformity with the provisions in the current GDOT *Standard Specifications Construction of Transportation Systems*. Place and maintain appropriate erosion control measures and restore the site to its original condition.

2. Store the stockpiled material in such a manner that security and inventory can be maintained. The DB Team is responsible for storage of said materials at no additional cost to GDOT.

3. Furnish the paid invoice or receipt for delivery within a reasonable time after receiving payment.

4. The material conforms with the requirements of the plans and specifications.

5. Assume risk for any damage to material due to the delay in incorporation of the material into the Final Plans.

6. Ensure the quantity of material does not exceed the quantity required by the Project, nor does the value exceed the appropriate portion of the contract item in which the material is to be incorporated.

7. Adhere to proper erosion control measures if the stockpiled material is embankment or other erodible material.

### 11.4.6 Pavement

No Asphalt Cement Price Adjustments will be made on this project.

For all asphaltic concrete, when materials or construction are not within the tolerances specified in Sections 400 and 402, deductions shall be made in accordance with the applicable requirements of Sections 106, 400 and 402. The deduction will be determined by the following formula:

\[
\text{Deduction (per ton)} = (1 - \text{Pay Factor}) \times \text{Assumed Unit Price/Ton} \quad \text{[Refer to Table 11-2 below]}
\]
Table 11-2: Assumed Unit Price per Ton for Various Asphaltic Concrete Materials

<table>
<thead>
<tr>
<th>Material</th>
<th>Assumed Unit Price/Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL &amp; H LIME</td>
<td>120.90</td>
</tr>
<tr>
<td>ASPH CONC 12.5 MM SMA, GP 2, INCL POLYMER-MODIFIED BITUM MATL &amp; H LIME</td>
<td>131.48</td>
</tr>
<tr>
<td>RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL &amp; H LIME</td>
<td>89.00</td>
</tr>
<tr>
<td>RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL &amp; H LIME</td>
<td>88.43</td>
</tr>
<tr>
<td>RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE I, GP 1 OR BLEND 1, INCL BITUM MATL &amp; H LIME</td>
<td>111.06</td>
</tr>
<tr>
<td>ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL &amp; H LIME</td>
<td>111.80</td>
</tr>
</tbody>
</table>

11.5 Deliverables
As indicated in this Section 11 and in Section 3 (Design and Submittals).
12 DRAINAGE

12.1 General
Effective performance of the drainage design and construction implemented for the Project (the Drainage System) is an integral part of the success of the Project. All stormwater runoff that flows through the Project, whether originating within or outside the Project, must be accounted for in the design of the Drainage System. All existing and proposed riverine/tidal bridges, stormwater conveyances (open-channel and closed-conduit), inlets, and stormwater management such as detention/retention ponds are included as part of the Drainage System.

12.2 Administrative Requirements

12.2.1 Standards
Provide activities in this section in accordance with GDOT’s Manual on Drainage Design for Highways (Drainage Manual), Attachment 3-1 (Manuals), and other provisions of the DB Documents.

12.2.2 Data Collection
Collect all necessary data, including those components outlined in this Section 12.2.2, to establish a Drainage System that complies with the requirements and accommodates the historical hydrologic flows within the Project limits.

Collect all available data identifying stormwater runoff obligations, including the following:

1. Water quality regulations as imposed by local, State, and federal governments
2. National Wetland Inventory and any other wetland/protected waters inventories
3. Any local floodplain ordinances in effective Federal Emergency Management Agency (FEMA) floodplains
4. Any restrictions on discharging stormwater to environmentally sensitive areas, navigable waters, or coastal zones
5. Official documents concerning the Project, such as the Environmental Documents and any other drainage or environmental studies

Determine any stormwater runoff issues that may include areas with historically inadequate drainage (evidence of flooding or citizen complaints of flooding), maintenance problems associated with drainage, and areas known to contain Hazardous Materials. Identify watershed boundaries, protected waters, areas classified as wetlands, floodplains, and boundaries between regulatory agencies (e.g., watershed districts and watershed management organizations).

Within the Project limits, acquire all applicable records, including:

1. Municipal drainage plans
2. Watershed management plans
3. Coastal zone management plans
4. Records of citizen concerns
5. Existing storm drain plans
6. Bridge hydraulic studies
7. Survey data
8. Data for all culverts, drainage systems, storm sewer systems, and bridges

Identify existing drainage areas and calculate the estimated runoff to the Drainage System.

Video record and photograph components of the existing drainage system within the Project limits that are scheduled to remain in place, and for which documentation is not available, to determine condition, size, material, location, and other pertinent information. Refer to Section 19 (Maintenance During the Design-Build Period).

Take data collected into account in the Final Plans of the drainage facilities. This data will be made available to GDOT upon request.

### 12.2.3 Coordination with Other Agencies

Coordinate all stormwater runoff issues with GDOT, affected interested parties, and regulatory agencies, including EPD, USACE, and USFWS.

### 12.3 Design Requirements

Ensure the Drainage System meets the following requirements:

1. The analysis, design, and construction of all components of the Drainage System address the interim conditions during construction of the Project and the conditions depicted in the RFC Plans.
2. The Drainage System has adequate capacity to convey all stormwater through the Project without any adverse impacts to upstream and/or downstream adjacent properties.

Upgrade within the Construction Maintenance Limits all substandard drainage facilities where the design and construction of the Project propose to utilize or impact those facilities. A drainage facility utilized on the Project is any drainage facility receiving Project stormwater runoff and/or any drainage facility conveying stormwater through the Project. A substandard drainage facility is any stormwater drainage system component where the existing structural condition, per Section 13 (Structures), and/or hydraulic capacity, per this Section 12, is inadequate to carry additional stormwater generated by the Project. Include in the design of the Drainage System reconfiguration of the existing drainage systems within the Project limits and design of new storm drainage systems as required per the performance requirements defined in this Section 12.

Immediately repair damage to existing infrastructure due to the DB Team’s operation to maintain existing system capacity at all times. This permanent repair is DB Team’s expense.

Provide facilities compatible with the existing drainage system and all applicable municipal drainage plans or systems in adjacent properties. Preserve existing drainage patterns.
Use the existing drainage facilities, provided the overall drainage requirements for the Project are achieved. Do not modify existing systems or install new drainage systems to create in-line/buried/subsurface/underground detention or stormwater runoff storage. Do not use blind junctions and/or non-accessible structures unless otherwise approved in writing by GDOT. Do not install and/or utilize longitudinal storm sewer pipe under travel lanes unless approved in writing by GDOT. Maintain the existing GDOT stormwater system, at a minimum, if no modification or upgrading is required. Include in this maintenance silt removal from any pipe, ditch, or structure and removal of any debris prior to the use of any existing GDOT stormwater system. This maintenance is the DB Team’s expense.

Base Final Plans on design computations and risk assessments for all aspects of Project drainage.

Coordinate with FEMA and the appropriate local Governmental Entities regarding any impacts to regulatory floodways and floodplains. In the event a Conditional Letter of Map Revision (CLOMR) is required, obtain local Governmental Entity approval and coordinate the subsequent submission to FEMA as early in the Project timeline as possible. Allow up to one year in the schedule for FEMA approval of any required CLOMR review.

Design the Project to follow FEMA regulations in FEMA regulated floodplains and local floodplain regulations only with respect to no net fill. This may include bridge structures over streams, bridges or bottomless culverts over streams, increasing the tie slope and/or utilizing retaining walls to reduce fill in the floodplain/floodway.

Ensure all areas of the Project comply with the Post-Construction Stormwater Design Guidelines contained in the Drainage Manual. Design detention BMP emergency spillways with an invert 0.1 feet above the 100-year ponding elevation with no clogging at the outlet control structure. Size the emergency spillway assuming a completely clogged outlet control structure. Use the resulting 100-year flow depth over the emergency spillway to set the top of pond and one foot of freeboard over the 100-year elevation. Place a fence around all detention BMPs. Design and construct dry detention basins with a maximum total suspended solids removal of 60%.

Ensure flood damage potential for the completed Project does not exceed pre-Project conditions.

Place riprap energy dissipators, or approved equal, at the outlet/downstream end of the stormwater conveyance.

12.3.1 Surface Hydrology

12.3.1.1 Design Frequencies


Use the design storm frequency as required for the corresponding facility in the Final Plans if a design storm frequency is not specified for a given component of the temporary Drainage System.
12.3.1.2 Hydrologic Analysis

Design the Drainage System to accommodate the Project drainage areas. These areas may extend outside of the Project limits.

Perform hydrologic analyses for the design of drainage features during the staging of construction and for the Final Plans for the Project according to the Drainage Manual.

12.3.2 Storm Sewer Systems

Design enclosed storm sewer systems to collect and convey runoff to appropriate discharge points where precluded from handling runoff with open channels or ditches. Do not allow stormwater to be conveyed to and/or through the bridge endroll nor released onto the bridge endroll located under a bridge.

Prepare storm sewer analyses and ensure it constitutes a section of the Drainage Design Report that contains, at a minimum, all pertinent items shown in Figure 3.5 in the Drainage Manual and the following:

1. Drainage area maps with each storm drain inlet and its pertinent existing and proposed data, such as delineated drainage area, topographic contours, runoff coefficients/design curve numbers, times of concentration, land uses, discharges, velocities and headwater elevations
2. Detailed tabulation of all existing and proposed storm drains. This includes conveyance size and class or gauge; catch basin spacing/location and detailed structure designs
3. Specifications for the pipe bedding material and structural pipe backfill on all proposed pipes and pipe material alternates
4. Storm drain profiles, including pipe size, length, type, height of fill, class/gauge, gradient and design hydraulic grade line (HGL); and numbered drainage structures with station offsets from the roadway alignment and elevations

Refer to GDOT Guidelines for Geotechnical Studies, Section 4.5.26-Pipe Culvert Material Alternates for allowable pipe and culvert material. The EOR must demonstrate to GDOT the structural and hydraulic sufficiency of existing drainage structures, including but not limited to pipes/culverts and inlets, and their functionality, utilized by construction for them to remain in place. Include in the demonstration hydraulic site inspections, calculations, bridge inventory reports, and other methods as needed. Rehabilitation of pipes and box culverts will be allowed as long as hydraulic capacity, structural integrity, and functionality are achieved.

12.3.2.1 Pipes

Design storm drains with design flow velocities greater than or equal to three feet per second (fps) or slopes greater than or equal to 0.0100 ft/ft to prevent sedimentation in the pipe.

Ensure minimum pipe inside diameter is 18 inches. GDOT acceptance is required for all existing pipes to be utilized with a diameter less than 18 inches.

Existing pipe systems not meeting GDOT’s maximum structure spacing requirement that are not being utilized by the construction of the Project may remain. Upgrade all existing system utilized
by the construction of the Project within the Construction Maintenance Limits as defined in the Maintenance Management Plan to meet the requirements of this Section 12.

Design the Drainage System such that there is no pressurized flow in the 10-year event or more frequent storms.

### 12.3.2.2 Municipal Separate Storm Sewer System (MS4)

Follow requirements in the *Drainage Manual* for compliance with GDOT’s General NPDES Stormwater Permit No. GAR 041000 (MS4 Permit). The DB Team is directly responsible for the minimum control measures within the MS4 Permit, as required in Attachment 12-1 (MS4 Responsibilities - Design-Build Project). BMP details are available on GDOT’s website, and special grading sheets related to BMP details are posted in the RIDs.

Provide to GDOT annual report data covering the portion of GDOT’s MS4 within the Project limits 60 days prior to the end of each reporting period, as required in the MS4 Permit. Submit to GDOT a signed and sealed Post-Construction Stormwater Report prepared per the *Drainage Manual* for review and acceptance. Upon GDOT acceptance, GDOT will send the Report to EPD according to the permit requirements. EPD will have 60 days to disapprove the Report. GDOT will not issue substantial completion until after the 60-day EPD disapproval period ends. Proceed with construction at your own risk prior to the 60 days expiring. GDOT will not issue reimbursement for any revisions to installed post construction BMPs as required by EPD.

Complete the following items:

1. Provide record of attendance of GDOT training courses.
2. Provide GIS data of the existing and proposed storm sewer systems and all ditches within the ROW. Ensure this GIS data complies with GDOT’s Supplemental Specification 156 – GPS Specifications for Conveyance Structures GIS Mapping (available on GDOT’s website as part of the Supplemental Specifications Modifying the 2013 Standard Specifications, Construction of Transportation Systems, 2016 Edition); contact GDOT to obtain the inventory standards and MS4 policy guidance prior to any data collection efforts.
3. Clean the existing drainage system sufficiently enough to allow for the proper detailed inspection of the system within the Project limits and as required in Section 19 (Maintenance During the Design-Build Period) for any proposed stormwater systems.

### 12.3.2.3 Gutter Spread/Ponding

Design pavement drainage systems, in both staging of construction and the Project, to limit ponding to the maximum gutter spread listed in Table 6.3 in the GDOT *Drainage Manual*. Limit ponding for all bridge decks according to GDOT *Drainage Manual*, Section 13.2.2, Design Spread and Frequency.

Ensure concentrated stormwater is not allowed/ released to flow across any travel lane within the Project. The term shallow-concentrated is synonymous with concentrated with respect to flows across travel lanes. Only allow sheet flow to flow across travel lanes.
Confine ponding in areas where PEM/OGFC is utilized to the shoulder at the limit of the PEM/OGFC with zero depth at the limit of the PEM/OGFC. Inlets shall not be placed within the travel lane.

12.3.3 Hydraulic Structures (Culverts/Bridges)
Analyze existing and proposed culverts and bridges utilized, replaced, or created by the Project design, for any flooding problems.

For all culverts, determine the allowable headwater depth (HWd) for the design-year storm per the Drainage Manual and based on items such as potential damage or loss of use to adjacent property, the culvert, roadway, stream and/or floodplain, as well as traffic interruption or hazard to human life.

Ensure all hydraulic computations, designs, and recommendations are consistent with past studies and projects in the area performed by local, State, or federal agencies.

Consider in the design of the structure the analysis of the storage and/or the tidal surges where hydraulic design is influenced by upstream storage and/or tidal surges.

Ensure bridge culverts have a minimum rise dimension of 4 feet.

12.3.3.1 Method Used to Estimate Flows
Ensure the selected hydrologic method is appropriate for the watershed conditions by using methods detailed in Table 4.1 of the Drainage Manual.

Utilize as appropriate flow information within FEMA Flood Insurance Studies (FIS) and any subsequent Letters of Map Revision (LOMR).

Utilize the required method for calculating the design flows according to the Drainage Manual for crossings not located within a FEMA FIS or on a gauged waterway.

12.3.3.2 Design Frequency
Design culverts and storm drain systems for the Design Storm Event according to the Design Discharge Criteria in the Drainage Manual. Design bridges for the 50 and 100-year frequencies.

12.3.3.3 Hydraulic Analysis
Evaluate all bridges for contraction and pier scour concerns and design for scour protection in accordance with the Drainage Manual.

Install protection in accordance with Section 15 (Landscape and Hardscape Enhancements) for bridge abutments in urban areas.

12.3.3.4 Riverine Bridge/Bridge Culvert Design
Analyze each existing bridge structure with the proposed flows to ensure it provides the required freeboard per the Drainage Manual. If this requirement is not met, design and construct a replacement structure with sufficient capacity to pass the Design Storm Event flows while providing the required freeboards.
Do not reduce existing conditions freeboard if there may be boat traffic under a bridge.

Analyze each existing major culvert structure with the proposed flows to ensure the headwater does not exceed that of the allowable headwater per the Drainage Manual. If this requirement is not met, design and construct a replacement structure with sufficient capacity to pass the proposed Design Storm Event with a resulting headwater depth of no greater than the HWd.

Design bridges/major culverts to maintain the existing channel morphology through the structure, if possible.

12.3.3.5 Bridge Deck Drainage

Ensure runoff from bridge decks is carried off the bridge and into the adjoining roadway drainage system. Include bridge approach drains to intercept gutter/shoulder flow at each end of the bridge in the roadway drainage design. Ensure stormwater flowing toward the bridge is intercepted upstream of the bridge.

Do not place open deck drains for bridges over environmentally sensitive areas, roadways or railroads. In these situations, if ponding will exceed width limits, ensure runoff is collected in inlets and conveyed in a closed deck drain system before discharging outside of these areas.

12.4 Construction Requirements

Design the Drainage System to accommodate construction staging. Ensure the design includes temporary erosion control, sediment basins and other BMPs needed to satisfy the NPDES and other regulatory requirements. Include all environmental approval commitments related to drainage design and erosion control as notes on the plans for each stage of construction.

Obtain GDOT acceptance during the Term to utilize any existing stormwater system (all pipe, structure, ditch, detention/retention system or any other component necessary for the conveyance of stormwater) outside the Project limits. Note that maintenance responsibility and costs will be as follows during the Term:

1. Costs to reconstruct or upgrade the substandard drainage facilities outside the Project limits are the sole cost of the DB Team. Rehabilitation of substandard drainage facilities may be considered upon request from the DB Team. The rehabilitation will meet the useful life as if the substandard drainage system structure was replaced as new.
2. Maintain at the DB Team’s expense any stormwater system accepted by GDOT and constructed for the sole purpose of the Project outside of the Project limits.
3. Maintain and restore at the DB Team’s expense the existing system to its original intended purpose for any accepted existing stormwater system whether used jointly by the DB Team and GDOT or for the DB Team’s sole use.

Maintenance work includes silt removal from any pipe, ditch, or structure, and removal of debris prior to the use of any existing GDOT stormwater system.

12.5 Deliverables

As indicated in this Section 12 and in Section 3 (Design and Submittals).
12.5.1 MS4 Annual Report Data
Report per the requirements of Attachment 12-1 (MS4 Responsibilities - Design-Build Project).

12.5.2 Drainage Report for Hydraulic Structures
Prepare a Hydraulic and Hydrologic (H&H) Study and any other required documentation for all existing and/or proposed river and tidal bridge sites and for culverts that meet any of the conditions listed in the Drainage Manual (Section 12.1) and any Environmental Commitments identified in the approved Environmental Documents. Include an impact analysis for any increase in backwater; at a minimum, the analysis shall include a map displaying current aerial photography and county GIS to show any additional impacts caused by the backwater increase. Additional documentation may include the preparation and submittal of any CLOMR or LOMR required for community and/or FEMA coordination. Provide all documentation according to Drainage Manual Appendix I.

Include the H&H Studies as a section in the Drainage Design Report.

12.5.3 Drainage Design Report
Submit to GDOT for review and acceptance, a Drainage Design Report, which is a complete documentation of all components of the Project’s drainage system, per the accepted Construction Phasing and Staging Plan. Include the following in the report at a minimum:

1. A set of all drainage computations, both hydrologic and hydraulic, with all support data
2. Hydraulic notes, models, and tabulations
3. Submit Bridge and culvert designs and Hydraulic reports (each riverine bridge layout/design at the same time as their corresponding H&H Study)
4. Pond designs, including a graphic display of treatment areas and maintenance guidelines for operation
5. A correspondence file
6. Drainage system data (location, type, material, size, and other pertinent information) in a suitable electronic format such as GIS
7. A Post-Construction Stormwater Report
8. Storm sewer drainage reports (if applicable) including Temporary and Final Drainage System layout with staged erosion control BMP location details
13 STRUCTURES

13.1 General
See Attachment 13-1 for Structures Special Provisions.

13.2 Administrative Requirements

13.2.1 Design Specifications
Provide activities in this section in accordance with:

1. GDOT's Bridge and Structures Design Manual (GDOT Bridge Design Manual),
2. AASHTO LRFD Bridge Design Specifications, 7th Edition - 2014 (AASHTO LRFD Specifications),
4. Other Attachment 3-1 Manuals, and
5. Other provisions of the DB Documents.

The GDOT Bridge and Structures Design Manual requirements take precedence where AASHTO LRFD Specifications and GDOT Bridge and Structures Design Manual requirements contradict or conflict with one another.

Unless otherwise noted, use LRFD methodology for design and detailing of all structural elements to be constructed or rehabilitated and incorporated within the Project.

When modifying an existing bridge designed under the AASHTO Standard Specifications, design the modified portion using AASHTO LRFD Bridge Design Specifications, 7th Edition - 2014.

13.2.2 Bridge and Wall Construction Plans Meeting
Arrange a meeting with GDOT to specifically discuss how the plans will be prepared prior to beginning plan preparation on the Project. After the preliminary bridge and wall layouts have been accepted by GDOT, prepare final plans.

13.3 Design Requirements

13.3.1 Design Parameters
Design bridges crossing over waterways in accordance with Section 12 (Drainage) and the DB Documents.

Design and construct all new bridge structures to accommodate any planned expansions or updates of each facility by its respective Governmental Entity or GDOT as designated in their respective current transportation master plans. The current transportation master plans (if any) can be found in Section 11 (Roadways).
For the Technical Provisions, superstructure is the portion of the bridge above and including the bearings, and the substructure is the remaining portion of the bridge below the superstructure.

Do not place longitudinal expansion joints in any travel lanes, including turn lanes.

The DB Team may use GDOT Construction Standards and Details on the Project without updating to meet LRFD requirements. Update the design to meet LRFD requirements if the DB Team modifies any of the standards and details.

Do not use any portion of the existing bridge in the new bridge construction.

Do not use culverts or bottomless culverts to replace any existing bridge.

If expanded polystyrene is added into precast concrete elements, ensure the expanded polystyrene is high density polystyrene foam bedding material conforming to the following specifications: compressive strength 60 psi minimum, water absorption 0.125 lb / ft² maximum and oxygen index 24 minimum. Ensure the expanded polystyrene meets the requirements of ASTM D-1621.

13.3.1.1 Vertical Clearances

Provide a minimum vertical clearance of 17 feet for new bridges constructed over freeways. Ensure new box girder bridges, bridges with integral piers, and pedestrian bridges have 17.5 feet minimum vertical clearance. Provide a minimum vertical clearance of 17.5 feet for all substructure elements over freeways, including straddle bents. Provide a minimum vertical clearance of 16.75 feet for new bridges constructed over other road designations.

For SR 60 over I-85, provide a minimum vertical clearance of 16.75 feet.

13.3.1.2 Bridge Design Live Loads and Load Ratings

Ensure that each bridge meets the load rating requirements for the design vehicle, as well as all current state legal live loads. GDOT will perform a load rating as part of the final review for each bridge design. Load ratings will be performed according to the current GDOT policy and practices.

13.3.1.3 Bridge Requirements

Replace or modify existing bridges in accordance with the requirements listed in this Section 13 and in Table 13-1 below.

On all bridges, inside and outside shoulder cross slopes shall match the adjoining lane. For bridges with normal crown roadway approaches and three or more lanes, all lanes sloped in one direction shall maintain a consistent cross slope.

For the bridges over Middle Oconee River and Walnut Creek, open deck drains are not allowed.
### Table 13–1: Bridge Requirements

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Bridge Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bridge 1</strong></td>
<td>SR 332 over I-85</td>
<td>Full replacement requiring new super structure, substructure and piers/foundations. New bridge shall accommodate typical section that accommodates 2 – 12’ lanes and 8’ outside shoulders. Provide a 28-foot unobstructed clear zone from the outside edge of proposed travel way to the face of barrier in front of an MSE walls, to collision protection in front of column, or to roadway embankment. No obstruction shall be placed within the clear zone. Minimum vertical clearance over I-85 lanes and shoulders shall be 17 feet. If a wall is necessary on the approach roadway, bridge shoulder shall match full roadway shoulder. Fencing on the bridge is not required.</td>
</tr>
<tr>
<td><strong>Bridge 2</strong></td>
<td>I-85 over Walnut Creek</td>
<td>Full replacement requiring new superstructure, substructure and piers/foundations. Ensure that the bridge accommodates three 12’ lanes in each direction with 12’ inside and outside shoulders. Skew intermediate bents from the bridge centerline to align with the stream channel flow. Locate no bents within the stream channel. Utilize a maximum 2:1 (H:V) slope normal to the end bent for endrolls at bridge abutments.</td>
</tr>
<tr>
<td><strong>Bridge 3</strong></td>
<td>I-85 over CSX Transportation, Inc</td>
<td>Full replacement requiring new superstructure, substructure and piers/foundations. Ensure that the bridge accommodates three 12’ lanes in each direction with 12’ inside and outside shoulders and CSXT guidelines. Provide a minimum vertical clearance over CSXT tracks and future tracks of 23'-0&quot;. During construction, provide a minimum vertical clearance over CSXT tracks of 23'-0&quot;. If the existing bridge vertical clearance is less than 23'-0&quot;, do not reduce that clearance. Provide a multi-span structure with intermediate bridge bents situated to provide 50-feet of horizontal clearance each side</td>
</tr>
</tbody>
</table>
### Section 13—Structures

#### Bridge

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Bridge Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge 4</td>
<td>I-85 over Middle Oconee River</td>
<td>of the existing mainline track, with no sloped end fill within 50-ft. of track. Full replacement requiring new superstructure, substructure and piers/foundations. Ensure that the bridge accommodates three 12’ lanes in the northbound direction with 12’ inside and outside shoulders, three 12’ lanes in the southbound direction (for the future condition) with a 12’ inside shoulder and a 16’ ramp lane from SR 11 with a 10’ outside shoulder. Skew intermediate bents from the bridge centerline to align with the stream channel flow. Locate no bents within the stream channel. Utilize a maximum 2:1 (H:V) slope normal to the end bent for endrolls at bridge abutments.</td>
</tr>
</tbody>
</table>

**Superelevation transitions on bridges are not permitted.**

Do not locate the low-point of a vertical curve on a bridge or approach slab.

Place bents away from top of stream banks, a minimum of five feet for pile bents and 10 feet for concrete bents.

If endrolls are used, utilize a maximum 2:1 (H:V) slope normal to the end bent for endrolls at bridge abutments.

Place the center of column(s) for an overpass located over an interstate median on the interstate centerline, and align the column(s) parallel with the travel lanes.

Final Bridge Plan acceptance is contingent on EOR response to GDOT review of the BFI.

#### 13.3.2 Beam Shipping Weight

The maximum weight of an Element that may be transported without analysis is limited. Submit shipping weights larger than 135,000 pounds, allowing 45,000 lbs. for the trucking apparatus, to GDOT to determine if an acceptable route is available.

#### 13.3.3 Bridge Decks and Superstructures

Timber bridges, masonry bridges, and structural plate arches are not permitted.

Do not use intermediate hinges for bridges.

Ensure each span length is at least 30 feet.
Ensure the girder spacing for beam bridges is 10.5 feet or less, with the exception of Type I mods that are limited to nine feet or less. Provide a minimum of four beams in each span.

Cored slabs and box beams are not allowed.

Minimize the number of deck joints wherever possible.

To the extent possible, make bridge superstructures, joints, and bearings accessible for long-term inspection and maintenance. Make open-framed superstructures accessible with walkways or by use of ladders or an under-bridge inspection truck.

Use K-type cross frames when galvanized steel diaphragms are detailed. Channels are acceptable for Type I Mod, Type II, and Type III AASHTO beams with approval of GDOT.

Do not use cover plates on new steel beams.

Do not use Fracture Critical Members (FCMs) for bridges. Steel box girder straddle bent caps are considered FCMs due to their non-redundant properties and are not permitted on the Project. Post-tensioned concrete straddle bent caps are not considered FCMs, as the post-tensioning strands provide internal redundancy.

The minimum steel beam flange thickness allowed is one inch. The maximum steel beam flange thickness allowed is three inches. The minimum steel beam flange width allowed is 18 inches.

Use constant flange width for both top and bottom flanges for the entire length of girder. At the field splice locations where the flange thickness is changed, the thicker flange shall provide a minimum 25 percent more area than the thinner flange. In addition, the thicker flange shall not be greater than twice the thickness of the thinner flange.

Do not use longitudinal stiffeners or transverse stiffeners.

Seal longitudinal joints for all grade separation structures.

Use preformed silicone joints seals for all bridge expansion joints unless the movement/size requirements exceed the limits of this joint type. If the standard joint between the approach slab and bridge is required to be modified, use a preformed silicone joint seal for the modified joint.

Ensure box girder superstructures and substructures are accessible without impacting traffic below. Make box girders and box beam pier caps with a minimum inside depth of six feet to facilitate interior inspection. Include a minimum access opening of three feet in diameter into all cells and between cells of the girders or pier caps to allow free flow of air during inspections. Ensure the outside access opening cover is hinged to the inside of the box girder and pier caps. Incorporate an electrical system (110 V) inside the box girder and pier caps with lighting and power outlets.

Install locked entryways on all hatches and points of access.

Adhere to the following conditions when using unpainted weathering steel on bridge superstructure:
1. Paint beam ends at expansion joints and ends of bridge for a distance of 1.5 times the beam depth. Paint to match color of weathering steel as approved by the Engineer. Use of ASTM A709 Grade 50W Steel and Grade HPS 70W Steel is permitted for steel bridge superstructure. Paint both steel types as required by this Section 13 as they are considered weathering steel.

Paint steel girders, if they are not weathering steel, using a gray finish color that meets the requirements of Federal Standard (FS) 595C color number FS36622.

Field splices utilizing bolted connections are permissible.

Ensure the following requirements are met for bolted field splices on steel girders:

1. Place bolts in double shear.
2. Do not allow splice plates and bolts to encroach on the slab design thickness.
3. Ensure contact surfaces of bolted parts meet class B requirements for slip critical joints in accordance with AASHTO.
4. Design connections as slip critical connections.
5. Ensure bolt lengths are such that threads are excluded from the shear plane in the connection.
6. Use 7/8-inch diameter bolts for typical girder splices. The size of the bolts may be increased for unusual structures with approval from GDOT.
7. Keep all erection bolts the same size, if possible.
8. Account for the effect of the splice on vertical clearance when locating the splice. Reduce vertical clearance at the splice location by the bottom flange splice plate, washer, nut, and free end of bolt (see AISC table titled “Entering and Tightening Clearance”).
9. Ensure all bolts are high-strength bolts that conform to the requirements of ASTM F3125 (Type 3 for weathering steel).

Blast clean steel bridge components that require painting to a near white surface condition according to SSPC-10 and paint per GDOT Standard Specifications.

Ensure steel-cross frame designs include a horizontal member.

Ensure the paving rest is 12 inches wide. Comply with Attachment 13-2 (Paving Rest Detail).

Use pour strips between construction stages of bridges for all beam types. Use Class AA-1 concrete.

Groove the entire length of the bridges transversely as per subsection 500.3.05.T.9.C of the GDOT Standard Specifications.

Use shear connectors in the negative moment region of steel girders with the use of precast deck panels.

Do not prestress or post-tension precast deck panels.
If using precast deck panels, use Ultra High-Performance Concrete (UHPC) for closure pours. Ensure closure pour widths are at least six inches.

Ensure deck drains and their attachments are one foot clear of all panel edges and joints.

Do not mount under-bridge lighting to any portion of existing bridge superstructure, including the decks or bridge beams.

Florida I-Beam (FIB) shapes are allowed. Design beams in accordance with Florida Department of Transportation (FDOT) Structures Design Guidelines, FDOT Standard Specifications, FDOT FY 2018-19 Standard Plans index numbers 450-010 and 450-036 through 450-096 and FDOT standard practices, except as noted below:

1. Neglect elastic gains.
2. Do not use transformed section properties.
3. Cast beams with a bearing slot or hole for a dowel bar in accordance with the GDOT Bridge Design Manual.
4. Do not use temporary strands.
5. The Engineer of Record is responsible for providing a beam stability analysis for all span lengths.
6. Ensure maximum beam spacing of 10.5 feet.
7. Use diaphragms, edge beams, and endwalls as specified in the GDOT Bridge Design Manual.

Pot bearings are not allowed.

13.3.4 Bridge/Retaining Wall Foundations
Perform LRFD bridge and wall foundation investigations for all proposed walls and bridges to be constructed on this Project. Base the foundation design on the recommendations of the accepted Bridge or Wall Foundation Investigation report and the requirements of Section 8 (Geotechnical). Except as provided in Section 8, any previously accepted reports provided by GDOT are for informational purposes only and GDOT does not certify or warranty the information contained in these reports.

For bridges crossing streams or any other bodies of water, evaluate and design all foundations to account for the effects of scour. Include in the design the recommendations of the hydraulics and hydrological report to ensure that spread footings, piles and caissons/drilled shafts have the proper embedment below the scour line. Protect slopes with rip rap in accordance with the recommendations of the hydraulics report.

The maximum span length for AASTHO PSC beam bridges on pile bents is 50 feet. If PSC piles are recommended in the approved BFI, spans up to 70 feet may be used. Geosynthetic Reinforced Soils (GRS) Integrated Bridge System (IBS) technology is not allowed.
13.3.5 Bridge Railing and Barriers

Ensure all barrier systems used on the Project match one of the systems provided in Section 3.3.2.1.2 of the GDOT Bridge Design Manual or Attachment 3-3 (Median Barrier Detail) and other safety requirements as determined by GDOT. All testing and associated costs for non-standard railings are the sole responsibility of the DB Team and accomplished through a third party acceptable to GDOT.

Use 42” single slope barriers if the bridge is located on a limited access highway.

For a retaining wall adjacent to a bridge, use the taller required barrier height on both the bridge barrier and the wall barrier.

13.3.6 Retaining Walls

To the extent possible, design and construct to provide embankments without the use of retaining walls. Where earthen embankments are not feasible, the DB Team may use retaining walls.

Do not use metal walls (including bin walls and sheet pile walls), recycled material walls, or timber walls.

If pipe culverts are to extend through cast-in-place retaining walls, install the pipe so that no wall expansion joints are located within two pipe diameters from centerline of the pipe.

If pipe culverts are under a cast-in-place retaining wall footing, provide a minimum of one foot of cover.

Locate weep holes through cast-in-place retaining walls no higher than three inches above proposed grade.

Do not use modular walls employing interlocking blocks where surcharge loads from vehicular traffic are present or as part of bridge abutments.

Do not use Mechanically Stabilized Earth (MSE) walls to support spread footing abutment foundations on the Project.

Use of MSE permanent concrete wall facing panels with a minimum structural thickness of 5.5 inches is allowable.

Design the top of wall to present a smooth profile with no sharp breaks, peaks, or valleys. For walls directly in front of bridge abutments, set the top of wall elevation one foot above the bottom of the adjacent abutment.

Final Wall Plan acceptance is contingent on EOR response to GDOT review of the WFI.

13.3.7 Aesthetics

Design retaining walls to be similar in color, texture, and style to other Elements present in the entire Project, such as structures, landscaping, and other highway components.

Coordinate all embellishments for structural Elements with the DB Team’s structural design team to facilitate constructability and maintain safety requirements. Ensure that structural
element surfaces exposed to public view meet the requirements of the GDOT Standard Specifications, Construction of Transportation Systems.

Do not allow exposed conduits, other than those required for lighting systems, on bents, columns, bridge beams, overhangs, or any other exposed surfaces. Lighting conduits may be attached to exterior surfaces of bent columns and caps to minimize exposure to the public. Minimize drain pipe exposure to public view.

Ensure all bridge substructure columns are consistent in form and texture, with similar shapes and details used for all bridges on the Project.

Ensure bridges with all or part of the structure visible to traffic either passing beneath the bridge or travelling in lanes adjacent to the bridge use constant depth of fascia beams along the entire length of the bridge to maintain a uniform appearance. An exception to this requirement is at locations where the fascia beam material changes from steel to concrete or vice versa. In this case, use cheek walls at piers to mask transitions where superstructure depth change is required due to the change in material type. Construct spans crossing mainline interstates with the same superstructure type over both directions of traffic; for example, do not span one direction with concrete and the other direction with steel.

Bridges that are not visible to traffic either passing beneath the bridge or travelling in lanes located adjacent to the elevated portions of the bridge are not required to have all fascia beams constant throughout the bridge length.

Ensure concrete finishes comply with Section 15 (Landscape and Hardscape Enhancements) and other requirements of the DB Documents.

13.3.8 Drainage Structures
Account for maximum anticipated loadings in developing the design of drainage structures. Do not utilize step down design for any part of the proposed drainage system.

Consider energy dissipators, if used, as structural Elements.

13.3.9 Sign, Illumination, and Traffic Signal Supports
The DB Team is responsible for the design of overhead sign supports to accommodate a full load of signs. Use sign bridge (Type I), butterfly (Type III), or combination (Type IV) in accordance with GDOT’s Attachment 3-1 Manuals. Do not use Type II sign (cantilever type) structures.

Do not mount support columns for Type I, III, and IV overhead sign structures or traffic signal mast arms to any portion of the new or existing bridge superstructure. Where an overhead sign structure or mast arm is required to be placed on a bridge, mount it either on the bridge substructure directly, such as the concrete pier cap, or on a pier and foundation separate from the bridge entirely. For a sign structure that is mounted to the pier cap, design the bridge pier for the additional loads and forces the sign structure will induce on the bridge substructure, including dead load, ice load, wind load, and vibration. Develop loads in accordance with the LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,

13.3.10 Reserved

13.3.11 Reserved

13.4 Construction Requirements

13.4.1 General Construction Requirements
Refer to Section 18 (Traffic Control) for Traffic Control requirements related to bridge construction.

Accelerated bridge construction methods may be utilized to replace existing bridges on the Project. The chosen methods are subject to review and acceptance by GDOT to ensure compliance with Project specifications as well as no adverse safety and schedule impacts to the travelling public.

Ensure all welding is performed by certified welders that have in their possession a current welding certification card issued by the Office of Materials and Testing. Only use E70XX (excluding E7014 and E7024) low hydrogen electrodes for manual shielded metal arc welding.

Ensure welding is in accordance with the requirements of the American National Standards Institute (ANSI)/AASHTO/ American Welders Association (AWS) D1.5M/D1.5:2010 Bridge Welding Code.

Exercise care during the demolition or modification of the existing bridge so as not to disturb adjacent buildings and Utilities.

Verify all existing dimensions and elevations in the field prior to ordering materials and building forms.

13.4.2 Final Bridge Inspection Prior to Substantial Completion
GDOT will inspect all bridges constructed prior to Substantial Completion. GDOT will perform the initial bridge ratings as part of this Work. Bridges shall not be opened to traffic until accepted by GDOT.

Provide to GDOT an overall schedule of completion for each structure in accordance with the Construction Phasing and Staging Plan and coordinate an inspection schedule with GDOT that will meet the Substantial Completion Date.

13.5 Deliverables
As indicated in this Section 13 and in Section 3 (Design and Submittals).
13.5.1 Preliminary Bridge Plan Layouts
Prepare Preliminary Bridge Plan Layouts in accordance with the GDOT Bridge Detailing Manual guidelines.

Additionally, provide a typical section that indicates the following information:

1. The center-to-center spacing of girders
2. Overhang or distance from outside edge of slab to center of exterior girder
3. Cross slope of the deck
4. Deck thickness between girders and deck thickness at the centerline of girder measured from the top surface of deck to top of the flange
5. Barrier location, height and width
6. Gutter to gutter and out-to-out dimensions
7. Location of the profile grade

Also provide any drawing and narrative description of the construction scheme necessary to indicate how the bridge is to be built, including traffic handling sketches and temporary barrier locations.

13.5.2 Preliminary Wall Plans
Prepare Preliminary Wall Plans in accordance with the GDOT Bridge Detailing Manual guidelines. The acceptable wall types are as follows:

1. MSE (Mechanically Stabilized Earth)
2. Cast-in place
3. Soil-nail (do not use directly adjacent to areas subject to roadway surcharge loads, including bridge end bents)
4. Modular block (do not use directly adjacent to areas subject to roadway surcharge loads, including bridge end bents)
5. Soldier pile
6. Tie-back

Other wall types may be considered by GDOT.

Any construction sequence requirements that will affect the construction of the walls need to be accounted for in the preparation of retaining wall plans.

13.5.3 Bridge and Wall Construction Plans
Provide Submittals as required in the following:

1. Section 3 (Design and Submittals)
2. Attachment 3-1 (Manuals)
3. DB Documents
13.5.4 Bridge Demolition Plan

Prepare a bridge demolition plan. Describe the demolition and removal methods. Provide, at a minimum, the following information in the plan:

1. A demolition schedule.
2. Location and method of protection of utilities.
3. Phasing and sequence of operations indicating construction equipment to be used for each operation being performed.
4. Location and weights of equipment on the structure during demolition.
5. Weights of equipment/materials to be staged/stockpiled on the structure. Demonstrate that the existing structure, in its partially demolished condition, is capable of supporting the weight of equipment and materials proposed to be placed on the structure during demolition.
6. When and how critical sections of the structure are to be removed (i.e. fracture critical components, arches, rigid frames) and analysis, as required, to confirm the structural stability of partial or complete parts of the structure being demolished.
7. Method of providing temporary support for elements which will become unstable as a result of the proposed demolition sequence and supporting calculations.
8. Calculations, as required above, to analyze the existing structure and temporary support conditions, prepared by a Professional Engineer licensed in the State of Georgia.
9. Methods of preventing debris, tools, or other materials from falling into any ESAs or onto the railroad or interstate.
10. Methods of protection and safety for the general public, inspection personnel and construction personnel.
11. Blasting plan, including appropriate Governmental Entity approvals.
12. Conformance with applicable permit(s) and environmental commitments; refer also to Section 4 (Environmental).
14. Additional Information as required by Governmental Entities.

Do not use portions of new bridge to support portions of existing bridge during demolition.

Do not proceed with demolition Work until the plan has been reviewed and accepted by GDOT. GDOT’s acceptance of the plan will not relieve the DB Team of liability for safe demolition of the structure. Hold a pre-demolition meeting at the Project site prior to starting the demolition.
14 RAIL

14.1 General
This Section 14 defines the criteria required for addressing impacts to established Railroad right of way (ROW) within or adjacent to the Project limits. Consider any activity that penetrates or encroaches on the horizontal plan limits of established Railroad ROW or other related limits as may be prescribed in the DB Documents as impacting the Railroad ROW. Such activities could include, but are not limited to:

1. Construction and/or removal of at-grade crossings (temporary or permanent)
2. Overhead or underground utility encroachments on Railroad ROW; including construction of temporary bore and jack pits
3. Protection of existing Railroad facilities during Project construction activities; including protection from crane booms or other equipment with potential for fouling live track(s)
4. Construction of Project facilities, such as bridges and/or roadways, across or adjacent to established Railroad ROW
5. Temporary and/or permanent modifications to existing Railroad facilities in connection with Project objectives

If the Project includes impacts to existing Railroad ROW as defined herein, set forth in the Project Management Plan (PMP) detailed procedures and methods for addressing those impacts meeting the requirements set forth in the DB Documents.

Understand the term Railroad in the DB Documents to mean the owning Railroad(s) and/or the operating Railroad(s), in the event that more than one such entity owns or operates within the impacted corridor.

The Railroad or its authorized representative has final authority in all matters affecting the safe maintenance of Railroad traffic and facilities including determining impacts to its ROW and/or embankment(s) and approving procedures for Work to be performed over its track(s).

GDOT or its authorized representative shall have authority over all other matters as prescribed in the DB Documents.

14.2 Administrative Requirements

14.2.1 Standards
These guidelines are provided for reference only and are subject to revision without notice. These guidelines cannot be taken as authority to construct. Execution of a preliminary engineering agreement, Railroad approval of construction documents, execution of a construction agreement, Railroad approval of insurance, and Railroad Right-of-Entry Agreement (if applicable) are required prior to beginning construction. These guidelines should be considered in addition to the current AREMA Manual for Railway Engineering, AASHTO MUTCD, State Railroad Regulatory Body requirements, and other provisions of the DB Documents. Where these guidelines and the documents referenced in the preceding sentence differ, these guidelines will govern.
Conduct all Work on, over, under, or adjacent to Railroad right-of-way in accordance with the Public Project Information for Construction and Improvement Projects That May Involve the Railroad. Comply with the CSXT Construction Submission Criteria found within this manual when developing construction-related submittals for CSXT review.

### 14.2.2 Special Provisions
Comply with Attachment 14-1 (Special Provision for Protection of Railway Interests), subject to the following modifications which are only applicable to Attachment 14-1:

- All provisions shall be considered mandatory requirements for which the DB Team is responsible, unless otherwise stated. All words such as “should,” “may,” “could,” and “can” are replaced by “shall” unless the context requires otherwise, as determined in the sole discretion of GDOT. Qualifying words such as “usually,” “normally,” and “generally” shall be disregarded when referring to DB Team responsibilities. GDOT has the sole discretion to determine when the context does not require a provision to be mandatory.
- References to the Contractor shall mean the DB Team.
- References to the Department shall mean GDOT.
- References to the Highway Engineer shall mean GDOT or its authorized representative.
- References to the Railroad Engineer shall mean the Railroad or its authorized representative.
- References to plans shall mean the DB Team’s plans.
- References to the job site shall mean the Site.
- References to the project shall mean the Project.
- References to working days shall mean Business Days.

### 14.2.3 Railroad Agreements
Unless otherwise specified in the DB Documents, the DB Team is responsible for all costs for ascertaining and obtaining all required approvals, permits, and agreements for performance of the Work, including any Railroad related Work, including the Railroad Construction Agreement. The DB Team is responsible for all costs of the Railroad Work incurred by DB Team, including costs of acquiring Railroad property interests, and costs with respect to relinquishment or acquisition of existing Railroad property interests.

#### 14.2.3.1 Permanent ROW Encroachment Agreement(s)
Prepare all documentation required to establish permanent ROW encroachment agreements between the Railroad and GDOT. Where such efforts involve revisions to existing agreements, GDOT shall furnish copies of those agreements to DB Team for the latter’s use in preparing revisions.

#### 14.2.3.2 Railroad Contractor Right of Entry (CROE) Agreement(s)
Prior to entering or encroaching upon Railroad ROW to perform the Work, secure a CROE agreement from the Railroad and coordinate directly with the Railroad the arrangements of said agreement which may include an outline of specific and general conditions with which DB Team must comply. For purposes of securing this agreement, furnish to the Railroad a schedule for all Work impacting Railroad ROW.
Include the names, addresses, and telephone numbers of the Railroad’s representatives in the Railroad’s CROE agreement for notification purposes. Where more than one representative is designated, specify the area of responsibility of each representative.

Furnish a copy of the fully executed CROE agreement to GDOT as proof of compliance with this provision. Do not enter or impact Railroad ROW prior to furnishing this proof of compliance to GDOT.

14.2.4 Insurance Requirements
Prior to executing any Work impacting existing Railroad ROW, procure insurance policies naming Railroad as insured party. Maintain such policies throughout the duration of Work performed under this section.

Obtain insurance in sufficient amounts to cover requirements set forth by all named insured parties. The following types of insurance are typically required, though the specific requirements of the named insured parties shall be covered:

1. Worker’s Compensation Insurance
2. Employer’s Liability Insurance
3. Commercial General Liability Insurance
4. Automobile Liability Insurance
5. Errors and Omissions and/or Professional Liability Insurance

Ensure all insurance policies are in a form acceptable to the Railroad. Submit copies of all insurance policies accompanied by written approval from Railroad of such policies to GDOT prior to any entry upon Railroad ROW.

In addition to the above forms of insurance or insurance and bonds required under the terms of the DB Documents, also carry the kinds of insurance described in the following sections.

14.2.4.1 Subletting
If any part of the work is sublet, provide similar insurance and evidence thereof in the same amounts as required to cover his operations. Endorsements to the DB Team’s policies specifically naming subs and describing their operations will be acceptable for this purpose.

14.2.4.2 Cancellation
Carry all insurance hereinbefore specified until all work required to be performed under the terms of the DB Documents has been satisfactorily completed within the limits of the ROW of the Railroad as evidenced by formal acceptance by GDOT and the Railroad. Insuring companies may cancel insurance by permission of GDOT and Railroad or on 30 days written notice to GDOT and Railroad.
14.3 Design Requirements

14.3.1 General Requirements
Design as a minimum to preserve the current operational characteristics of existing rail lines and be capable of accommodating the future operational needs of the Railroad.

At highway-rail grade crossings, maintain the roadway and drainage design parameters at the crossing, except that the cross slope of the pavement may be transitioned to match the grade across the rail line.

The following are allowable CSX Design Exceptions/Variances for the Project:

- CSX variance for not clear-spanning over CSXT Railroad ROW

14.3.2 Design Railroad Live Load
Design any permanent or temporary facilities that could be subjected to train loadings from existing or future tracks, including false work, temporary shoring, temporary crossings or structures, shooflies, culverts, bore and jack pits, etc., in accordance with applicable provisions of the current edition of the Manual for Railway Engineering as published by the American Railway Engineering and Maintenance-of-Way Association (AREMA Manual). The governing design Railroad live load for such facilities is the Cooper E-80 live load as specified in Chapter 15, Section 1.3.3 of the AREMA Manual.

14.3.3 Design Lateral Pressures for Railroad Live Load Surcharge
Design permanent and temporary facilities supporting Railroad embankment excavation for lateral pressures resulting from Railroad live load surcharge. Refer to the Business equation as shown in Chapter 8, Part 20, Section C, Paragraph 2(b) of the AREMA Manual to determine lateral pressure values for Railroad live load surcharge loading.

14.3.4 Clearances
Wherever practicable, locate piers and abutments for overhead bridge structures outside the Railroad ROW. For all structures, provide the horizontal and vertical clearances specified herein for existing tracks and drainage ditches. If future tracks and drainage ditches have been designated by the Railroad in the Project area, the clearances specified herein shall apply to those tracks and ditches as well.

14.3.5 Crashwalls
Chapter 8, Article 2.1.5 of the AREMA Manual covers requirements for crashwalls. Crashwalls are required when any portion of the face of a pier is closer than 25 feet to centerline of track (including future tracks), measured perpendicular or radial to the track.

Crashwalls may be omitted for piers of heavy construction as defined by the aforementioned AREMA Manual requirements.
14.3.6 Drainage

Indicate all proposed drainage encroachments on Railroad ROW in the bridge and roadway plans.

Include drainage plans with the bridge and roadway plans submitted to the Railroad for approval. Include in these plans hydrologic computations, indicating the rainfall intensity and duration of the design storm used, as well as the method of analysis. A 100-year recurrence interval is the minimum design storm. If the proposed Project will not change the quantity and/or character of flow in the Railroad’s ditches and/or drainage structures, include in the plans a general note stating thus.

Submit cross sections perpendicular to the centerline of track along with the drainage plans. Ensure the maximum interval of cross sections is 20 feet along the affected length of track; however, submit at least five cross sections for each bridge site, and additional cross sections will be provided if warranted by special conditions. Furthermore, take one cross section at the centerline of each road crossing, one at each limit of construction, and one located midway between each end and the center. Show and locate the existing Railroad ditch and the proposed toe of slope for the end fill on all cross sections.

Where the Project design calls for an increase in the drainage flow through the Railroad embankment, provide a separate drainage structure parallel to existing drainage structure(s) for such purposes. Design and construct the structure per the AREMA Manual.

When the proposed Project will change the quantity and/or character of flow in the track ditches, modify the ditches as required to handle the drainage. Submit the ditch design to the Railroad for approval.

No scuppers or other deck drains, roadway drainage, catch basins, inlets or outlets are permitted to drain onto Railroad ROW. Obtain the prior written approval of the Railroad for any variance of this policy and maintenance responsibility, including maintenance during construction and any required maintenance agreements, for such drainage structures must be approved by GDOT. Convey drainage from bridge scuppers and deck drains through pipes to a location off of, and draining away from, Railroad ROW. If it is not practicable to convey such drainage away from track drainage ditches, provide calculations demonstrating the ability of the ditch to carry the additional runoff to the Railroad for approval.

Approval of the drainage plan does not relieve the DB Team of ultimate responsibility and liability for a satisfactory drainage design.

14.3.7 Excavation for Structures

In addition to complying with the requirements of Attachment 14-1 (Special Provision for Protection of Railway Interests), submit excavation Plans and calculations that have been prepared and signed by a Professional Engineer. Ensure the accuracy of all controlling dimensions as well as the selection of soil design values which will accurately reflect the actual field conditions. Ensure plans contain details of the shoring system showing sizes of all structural members, connection details, and embedment depths. Include a plan view showing layout of all proposed excavations and distances from centerline of track(s) to faces of
excavations. Ensure plans show a section normal to the track(s) showing the shoring location relative to the centerline of track(s) and showing the height of shoring and track elevation(s) in relation to the bottom of excavation. Ensure the Plans are complete and accurately describe the nature of the Work.

Address all false work, shoring, excavation supports, etc., adjacent to Railroad track(s) in the Excavation Plans and calculations. Submit four copies of sealed plans and calculations to GDOT for review and submittal to Railroad. Allow a minimum of 30 days for the Railroad’s review of such submittals. No excavation will be allowed until the Plans and calculations are reviewed and approved by the Railroad. The Railroad will review all excavations on or adjacent to the Railroad ROW before excavation begins.

Railroad’s approval of the excavation plan does not relieve the DB Team and/or GDOT of ultimate responsibility and liability for the excavation Plan.

14.3.8 Utilities Considerations
Show in the plans dimensioned locations of all existing and proposed utilities within the Railroad ROW and define the responsibility for locating, marking, or installing and protecting such utilities. Railroad and GDOT are not responsible for these activities.

Encase pressurized and non-pressurized liquid carrier pipe lines under the Railroad ROW, suspended from overhead bridges that cross, or run adjacent to, Railroad ROW so as to protect Railroad ROW and facilities from free falling discharge in the event of a carrier rupture.

Consider the presence of fiber optic cables presently buried on the Railroad ROW, or if such installations are scheduled during the course of the Project in the design and address appropriate measures for protection of the fiber optic cables on the Plans and in the Contract Documents.

“One Call” services do not locate buried Railroad signal and communications lines. Contact the Railroad’s representative two Business Days in advance of those places where excavation, pile driving, or heavy loads may damage Railroad underground lines on Railroad property. Upon request from the DB Team or agency, Railroad signal forces will locate and paint mark or flag Railroad underground signal, communication, and power lines in the area to be disturbed for the DB Team. Avoid excavation or other disturbance of these lines which are critical to the safety of the Railroad and the public. If disturbance or excavation is required near a buried Railroad signal, communication, or power line, pothole the line manually with careful hand excavation and protect all facilities during the course of the disturbance under supervision and direction of a Railroad signal representative.

14.3.9 Miscellaneous
Furnish Record Drawings to Railroad showing actual clearances and depth, size, and location of all foundation components.

Do not use cast-in-place concrete girders in bridge spans crossing over an operated track or in spans of bridges adjacent to and within 13 feet of the centerline of an operated track. Do not use cast-in-place concrete pier caps for bents crossing over an operated track.
Coordinate design and construction of any Elements of the Work as appropriate with the Railroad, including any falsework, temporary shoring, temporary crossings or structures, shooflies, etc.

Fence all bridges over Railroad tracks and ROW for the entire length of the bridge on both sides in compliance with Railroad criteria.

Comply with all construction requirements and specifications set forth by the Railroad.

The DB Team is responsible for scheduling the Work to be completed by the Railroad as well as Work to be completed by its own forces.

Position structure-mounted lighting and roadway signs so they are not in the spans directly over the Railroad tracks.

14.3.10 General
In addition to the requirements of Attachment 14-1 (Special Provision for Protection of Railway Interests), Construction Work and operations by the DB Team on Railroad ROW must comply with the following requirements:

- In accordance with DB Documents
- In accordance with any executed agreement, license agreement, and right of entry

14.3.11 Safety Guidelines
In addition to complying with the requirements of Attachment 14-1 (Special Provision for Protection of Railway Interests), comply with the following:

14.3.11.1 Personnel on Railroad ROW
Ensure all persons wear eye protection and hearing protection when appropriate.

14.3.11.2 Equipment on Railroad ROW
Immobilize all unattended equipment that is left parked on Railroad property so that it cannot be moved by unauthorized persons.

14.3.11.3 Operation Safety
Comply with the Railroad’s requirements for contractor safety, training, and criminal background checks prior to entering Railroad ROW.

14.3.12 Flagging Services
Railroad has sole authority to determine the need for flagging required to protect its operations and facilities. In general, the requirements for flagging will be whenever the DB Team’s personnel or equipment are, or are likely to be, working on the Railroad’s ROW, or within distances as may be specified in the DB Documents or by the Railroad, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a Railroad structure or the Railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.
14.3.12.1 Payment

The DB Team will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction. Do not delegate this responsibility to any Subcontractor or any other Party. GDOT will not reimburse the Railroad for any costs of the flagging required by the DB Team’s work. The cost of flagging is based on an eight-hour work day and 40-hour work week. This cost includes the base pay for the flagman, overhead, and generally includes travel expenses, meals, lodging, equipment, etc. Railroad will charge DB Team for the actual flagging cost based on the rate of pay for the Railroad’s employees who are available for flagging service at the time the service is required. Work by a flagman in excess of eight hours per day and 40 hours per week will result in overtime pay at 1½ times the appropriate rate. Also, holiday work will result in overtime pay at two times the appropriate rate. Railroad work involved in preparing and handling bills will also be paid by the DB Team.

Charges to the DB Team by the Railroad shall be in accordance with Federal-Aid Highway billing procedures and requirements as contained in applicable provisions of Part 140, Subpart I, and Part 646, Subpart B, of Title 23, Highways, of the Code of Federal Regulations, current edition, and shall further be on the same basis as GDOT would be billed by the Railroad if GDOT was paying for the charges.

Option 1: Make advance deposit of funds based on an estimate of the cost of protective flagging or other services as determined by the Railroad. The cost for Railroad services shall then be assessed by the Railroad against this advanced deposit. Upon completion of the Project, any unused funding will be returned to the DB Team. If the Railroad’s cost exceeds the advance deposit(s), a request will be made to the DB Team for additional funds, or an invoice will be issued to the DB Team for final payment. Remit payment to the Railroad within 30 days of receipt of either a request for additional funds or an invoice.

Option 2: The DB Team is typically billed for flagging services on a periodic basis directly by the Railroad. Promptly pay such bills within 30 days after each bill is rendered. Should the DB Team fail to pay the Railroad within 60 days after any bill is rendered, GDOT may pay directly to the Railroad any amounts due and deduct the amount of such payments from any funds due the DB Team or all Work requiring flagging shall cease until such payment is made. This provision does not affect the obligation of the DB Team under this bond or the rights of the Railroad or GDOT under the bond.

14.3.12.2 Verification

Review and sign the Railroad flagman’s time sheet, or other similar documentation, attesting that the flagman was present during the time recorded.

The Railroad flagman assigned to the Project will be responsible for notifying GDOT and DB Team upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. Document such notification in the Project records. When requested, sign the flagman’s time sheets showing daily time spent at the Project site.
14.3.13 Erosion Control
Indicate in the DB Team’s plans the proposed methods of erosion control, and specifically address means to prevent silt accumulation in Railroad ditches and culverts and to prevent fouling the track ballast and sub-ballast. If the plans do not show erosion control, submit a proposed method of erosion control and have the method approved by the Railroad prior to beginning any grading on the Project Site.

Maintain existing track ditches at all times throughout the construction period. After the construction has been completed, remove all erosion control measures, all deposits of silt, and restore the ditches.

Approval of the erosion control plan does not relieve DB Team of ultimate responsibility and liability for a satisfactory erosion control plan.

14.3.14 Track Clearances
Maintain the minimum track clearances during construction that are included in the DB Documents. Clearances less than these will not be permitted unless specifically authorized by the Railroad. The Railroad will specify such clearances if they are not stated in the DB Documents.

14.3.15 Demolition, Erection, Hoisting
Pile driving submittal is required for review and approval on a case-by-case basis, depending on site conditions and space limitations.

Remove all substructure elements a minimum of three feet below the existing ground line.

14.3.16 Maintenance and Repair of Railroad Facilities
Maintain all ditches and drainage structures free of silt or other obstructions which may result from its operations and provide and maintain any erosion control measures as required by the DB Documents.

14.4 Deliverables
Provide as indicated in this Section 14 and in Section 3 (Design and Submittals).

14.4.1 Construction Submission
Submit electronic (PDF) plans, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All Plans, specifications, and supporting calculations shall be signed/sealed by a Professional Engineer who is licensed in State of Georgia.

14.4.2 Permanent Clearance Special Conditions
Furnish as-built drawings showing actual clearances as constructed.
14.4.3 Drainage Plans
If stormwater is drained on or to Railroad’s right-of-way, submit calculations to the Railroad to verify the 100-year storm event is properly handled.

14.4.4 Shoring Plans
Submit the following drawings and calculations for Railroad’s review and approval.

Three sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances form centerline of track to face of shoring. Include a section showing height of shoring and track elevation in relation to bottom of excavation.

One set of calculations of the shoring design. The drawings and calculations shall be prepared by a Licensed Professional Engineer in the State where shoring is to be constructed and shall bear his seal and signature. Shoring plans shall be approved by the Railroad’s construction engineering and inspection representative.

For sheeting and shoring within 18 feet of the centerline of the track, the live load influence zone, and in slopes, use sheet pile. Do not remove sheet pile in slopes or within 18 feet of the centerline of track. Cut off sheet piles three feet below the finished ground line. Backfill and compact the remaining three feet immediately after cut off.
15 LANDSCAPE AND HARDSCAPE ENHANCEMENTS

15.1 General
Design and construct aesthetic treatment enhancements for the roadway and landscaping Elements of the Project as defined in this Section 15 and to harmonize with the indigenous landscape and architecture.

15.2 Administrative Requirements
The intent of this Section 15 is to provide guidelines on enhancement value for both the users and the onlookers of the corridor, and to provide a roadway corridor with continuity and attractiveness using comprehensive aesthetic treatments. This Section 15 presents minimum landscape and hardscape design requirements for the Project.

15.2.1 Traffic Signal Permit
No requirements.

15.2.2 Landscape and Hardscape Enhancement Plans
No requirements.

15.2.3 Landscaping and Design Personnel
No requirements.

15.3 Design Requirements

15.3.1 Landscape and Hardscape Enhancement Principles and Strategies
Follow the guidelines listed for preparation of any required landscaping designs and plans for GDOT review:

1. Minimize the impact of the Project on the existing natural environment to the extent possible.
2. Ensure the Project is complimentary to the indigenous landscape to the fullest extent possible.
3. Use simple geometric shapes for structures to the extent possible for continuity along the entire length of the Project.
4. Detail all structures carefully to achieve the greatest level of quality and fit within the regional context.
5. Use color, texture, and form consistently for all structures.
6. Use colored mix concrete or staining application with prior approval by GDOT where color is used for concrete features. Do not use painted concrete features.
7. Ensure consistent graphics, signage, and lighting along the entire length of the Project.
8. Preserve unmanaged woods, existing trees, and rock outcroppings to the greatest extent possible.
9. Fully integrate Embellishment Elements with the overall landscape design.

10. Ensure Landscape Enhancement Plans conform to GDOT’s specifications, policies, and procedures.

11. Ensure consistent visual quality of the landscape along the entire length of the Project.

12. Ensure Embellishment Elements are easy to maintain and provide protection from vandalism and graffiti.

13. Ensure aesthetics do not interfere with safety, constructability, and maintenance.

15.3.2 Walls
Apply ashlar treatments to the vertical surfaces, where publicly visible, of retaining walls (MSE walls only) and both sides of sound barrier walls.

Pay special attention to themed design embellishments and use high-quality finishes and materials at interchanges.

Achieve ashlar finish with a concrete form liner approved by GDOT. Ensure the ashlar pattern stone sizes vary from six inches to 32 inches wide and three inches to 12 inches high with 0.75-inch-deep by 0.75-inch wide joints, and that the ashlar finish is light gull gray in color. Use light gull gray Federal Standard (FS) 595C color number FS36440 and/or as approved by GDOT.

Use graffiti-proof coating that meets the requirements of GDOT Standard Specifications Section 838 on all visible walls.

15.3.3 Bridges and Other Structures
Coordinate all embellishments for structural Elements with the DB Team’s structural design team to facilitate constructability and maintain safety requirements.

15.3.4 Trees, Shrubs, and Other Plant Materials
Ensure that all plants supplied for this Project are grown in Georgia. Provide documentation from supplier indicating source of plants.

15.3.5 Lighting
No requirements.

15.3.6 Control Buildings
No requirements.

15.3.7 Intersection Hardscape
No requirements.

15.3.8 Miscellaneous Concrete Paving
Ensure all concrete islands are in accordance with GDOT Standard 9032B and have colored stamped concrete, matching Federal color code FS30152.
15.4 Construction Requirements
Provide GDOT samples, mock ups, or catalog cuts for review and approval prior to start of production of any embellishment element.

Provide GDOT sample panels of textured concrete surfaces a minimum of 60 days in advance of starting construction for review and approval.

15.5 Deliverables
As indicated in this Section 15 and in Section 3 (Design and Submittals).
16 SIGNING, PAVEMENT MARKING, SIGNALIZATION

16.1 General
Design and construct all signing, delineation, pavement markings, and signalization for the Project.

16.2 Administrative Requirements

16.2.1 Standards
Provide activities in this Section 16 in accordance with Attachment 3-1 (Manuals), Government Approvals, and other provisions of the DB Documents.

16.2.2 Meetings
Arrange and coordinate all meetings with local agencies that assume responsibility for maintaining and operating traffic control devices including traffic signals. Provide GDOT with notification of such meetings a minimum of ten Business Days prior to the start of the meeting. GDOT, in its discretion, may attend such meetings.

Arrange and coordinate all meetings with requesting agencies or individuals regarding special signs.

16.3 Design Requirements

16.3.1 Permanent Signing and Delineation
Include all new signs required for the Project and replace existing signs and structures impacted by the Project with new signs and structures that meet all applicable Attachment 3-1 (Manuals) requirements. Include in the design the locations of proposed ground-mounted and overhead signs, as well as existing signs that are to remain, graphic representation of all signs, proposed pavement markings, delineation placement, guide sign and special sign details, clearance diagrams, and structural and foundation requirements. Locate signs in a manner that avoids conflicts with other signs, vegetation, CMS/VMS, lighting, and structures. Ensure that signs are clearly visible, provide clear direction and information for users, and comply with all applicable Attachment 3-1 requirements. Ensure that placement, construction, and installation activities of signage avoid impacts to all environmentally sensitive resources.

GDOT will provide to the DB Team two Your Dollars Building A Better Georgia logo signs in either 24-by-36-inch or 36-by-48-inch size. Install the signs on each end of the Project prior to beginning construction. Remove the signs when GDOT issues Substantial Completion on the Project. Return the signs to GDOT upon removal.

Ensure that all sign placements meet appropriate sight line requirements and standards. Design and locate all sign structures and overhead signs to ensure that they and any existing GDOT overhead signs have sight distance of at least 1,000 feet and meet any other MUTCD and GDOT Signing and Marking Design Guidelines and allowable sign spacing requirements.
Review with GDOT all requests for new signs, including traffic generators, or modifications of existing sign legend. Such requests are subject to GDOT’s acceptance.

Replace any existing signs and sign structures impacted by the Project or in conflict with proposed signs with new signs and structures that comply with Attachment 3-1 (Manuals), or as otherwise approved by GDOT.

Ensure all overhead signs on a single structure are the same height with the exception of general information or regulatory signs such as Rest Area or an R554-X.

Ensure all existing and proposed advanced guide signs are mounted on overhead structures.

Three overhead advance guide signs and one overhead Exit Direction sign, meeting current Attachment 3-1 (Manuals) design manuals requirements and guidance, are required for all freeway to freeway interchanges within the Project area.

Overhead arrow per lane guide signs are required for all multi-lane exits at major interchanges that have an optional exit lane that also carries the through route and for all multi-lane freeway to freeway splits that include an option lane. Sign attachments to any existing roadway bridge are not allowed.

Ensure supplemental signs on interstate highways comply with the AASHTO MUTCD. Guidance on destinations is provided in GDOT’s Policies and Procedures 6775-9.

Install truck restriction signs (R554-X) on interstates in locations of three lanes or more of travel in one direction. Mount signs on overhead road bridge structures or on an overhead sign structure at interchanges with underpass. Design signs as per GDOT Detail T-7. For locations on interstates with two lanes of travel in one direction, mount the R560-3 sign on the shoulder at least once between interchanges; design the R560-3 sign as per GDOT Detail T-5A.

GDOT or Governmental Entities may allow specific service signs, such as LOGO signs to be installed. Coordinate and cooperate with GDOT or any third party performing such work. Remove and remount any LOGO sign that conflicts with a proposed sign installation and allow for proper sign sight distance in accordance with GDOT Signing and Marking Design Guidelines and the MUTCD. LOGO sign shall be moved if a special roadside or overhead sign structure needs to be installed within 800 feet of the LOGO sign. The DB Team shall contact Georgia Logos, LLC at 770-447-6399 or 1-800-783-2361 prior to removing, resetting, or replacement of LOGO signs. Cost for removing, resetting, and maintaining LOGO signs as necessary shall be included in the overall bid price. Existing LOGO signs shall be maintained during construction on a moveable structure. Any LOGO signs damaged during construction shall be replaced at no additional cost.

All overhead sign structures shall be spaced a minimum of 800 feet from other overhead sign structures and roadway bridge structures unless otherwise approved by GDOT.

For overpass bridges, new W8-13 signs shall be required in advance of bridge.

For the purposes of signing design, interchanges shall be considered Major interchanges.
For overpass bridges, all existing signs on the approach or at the bridge that are no longer applicable shall be removed including but not limited to weight restriction signs, or narrow bridge signs, even if outside the proposed construction limits. All other existing signs on the approach or at the bridge shall be replaced.

Remove any existing signing related to existing inside lane drop near SR 53 on I-85 NB.

Ensure overhead sign structures and ground mounted signs installed by PI 110610 (listed in Table 16-1) are retained and not impacted.

**Table 16-1: PI 110610 Signs to be Retained**

<table>
<thead>
<tr>
<th>Milepost</th>
<th>Type</th>
<th>Direction</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>129.7</td>
<td>I</td>
<td>Southbound</td>
<td>Overhead sign, not to be impacted</td>
</tr>
<tr>
<td>130.2</td>
<td>III</td>
<td>Southbound</td>
<td>Overhead sign, not to be impacted</td>
</tr>
<tr>
<td>130.4</td>
<td>Special Roadside Sign</td>
<td>Southbound</td>
<td>Special Roadside Sign, not to be impacted</td>
</tr>
</tbody>
</table>

16.3.2 **Sign Support Structures**

Determine foundation types and design sign foundations based upon Standard Specification 638. Design sign support structures in accordance with Attachment 3-1 (Manuals). Provide the design of the structural support for overhead signs to GDOT and provide for the maximum allowable sign area that can be placed onto the structure support as defined in GDOT Signing and Marking Design Guidelines. Design Type III structures to accommodate at least 550 square feet of sign area. Place a GDOT structural support number on the outside vertical support of the structure. Requirements for the alphanumeric code are specified in the GDOT Signing and Marking Design Guidelines. Ensure that any existing overhead sign structure that has a change in design sign area and/or load due to new or revised signs meets all structural requirements in Attachment 3-1.

16.3.3 **Permanent Pavement Marking**

Ensure that the design and installation of all pavement markings including Raised Pavement Markings (RPM) comply with the Attachment 3-1 (Manuals). Install RPMs where new pavement marking is provided.

Contrast pavement markings are required on all concrete surfaces.

Replace pavement marking on I-85 NB and SB inside lanes near SR 53 to show three continuous lanes in each direction.

16.3.4 **Permanent Signalization**

Coordinate with the Utility Owners and ensure necessary power service is initiated and maintained for permanent signal systems.

After implementing accepted timing plans, provide GDOT and Governmental Entities (maintaining agencies) responsible for operation and maintenance of the traffic signal system
16.3.4.1 Traffic Signal Requirements

Design and install fully-actuated permanent traffic signals at all GDOT-permitted intersections within Project limits. In addition, modify, as appropriate, any existing traffic signals impacted by the Project. Coordinate with GDOT and the applicable local Governmental Entities to define appropriate traffic signal design requirements, local agency oversight of the Work, and final acceptance of traffic signals. Coordinate with local Governmental Entities for synchronization of traffic signal networks.

Provide interconnection systems between new or modified signals and any other signal system within the Project Site as required by GDOT or the applicable local Governmental Entity. Coordinate connection of the completed system to the Governmental Entity’s communications network with the Governmental Entity. Ensure continuous communication with the traffic signal system within the Project Site and provide all communication hardware/equipment for GDOT or the applicable local Governmental Entity to communicate with the signal systems within the Project Site.

Provide both pedestrian and vehicle detectors at all traffic signals per GDOT and/or applicable local Governmental Entity’s (maintaining agency) requirements within the Project Site.

Coordinate with the GDOT TMC and the GDOT District Traffic Operations to ensure that all signalized locations are permitted prior to submission of Final Plans.

Maintain all existing traffic signals until Final Acceptance, which includes:

1. Control system adjustments
2. Temporary support pole locations required by the Project during the interim period through the installation of the permanent traffic signal locations
3. Vertical clearance requirements
4. Maintenance and repairs

Do not cause any part of the signals to be inoperable. The permanent traffic signal locations are to be checked and accepted by the District Traffic Signal Engineer and the County Traffic Engineer prior to Final Acceptance.

16.3.4.2 Traffic Signal Timing Plans

Traffic signal timing should be developed and implemented by a prequalified Contractor/Consultant. As a minimum, this work will include:

1. Coordination with local GDOT District and/or local government(s) to gather agency preferred timing parameters and expectations, and to facilitate a smooth transition from existing signal timing plans to new signal timing plans.
2. Evaluation of existing traffic operations, system equipment functionality, and inventory of assets.
3. Collection of two-hour turning movement counts (TMC’s) for the AM, mid-day, and PM peak periods at each Intersection. For contractor timing projects (if approved by the Engineer AND the signals reside in a rural area), one-hour TMC’s may be collected in lieu of two-hour TMC’s.

4. Collection of directional (tube) counts (seven-day/24-hour) per control section, as appropriate or as recommended by the Engineer. A minimum of one directional count is required, and additional directional counts are needed if the number of intersections exceeds seven or if there are significant changes in traffic volumes along the corridor.

5. Development, implementation, and fine-tuning a minimum of four signal timing plans per control section, unless otherwise specified by the Engineer. In most cases, more than the minimum required will be needed to successfully complete the project.

6. Development of additional timing plans as needed, including holiday, seasonal, weekend, and other special plans as requested by the Engineer. The number of additional plans shall be discussed as part of the kickoff meeting. For contractor timing projects, the Consultant will need to address this item prior to providing a fee to the contractors.

7. Before/after studies and preparation of project performance measures to detail signal timing improvements.

16.3.4.3 Traffic Signal Permit
As part of the design process, obtain the necessary traffic signal permit or permit revisions by following applicable GDOT and/or local Governmental Entities’ signal permit processes prior to any new signal installation or existing signal modification.

16.3.4.4 Traffic Signal Support Structures
As part of the design process, coordinate with GDOT and the local Governmental Entities to determine the type of acceptable traffic signal support structures. Obtain the maintaining agency’s acceptance of traffic signal support structures to be used on new signal installations.

16.4 Construction Requirements

16.4.1 Permanent Pavement Marking
Install full pattern pavement markings on all pavement courses before any roadway is opened to traffic. Place and maintain RPMs when the roadway is open to traffic.

Before placing any permanent pavement markings, provide GDOT a layout indicating the proposed location of such items.

16.4.2 Permanent Signing and Delineation
Use established industry and utility safety practices when erecting or removing signs located near any overhead or underground utilities and consult with the appropriate Utility Owners prior to beginning such work.
Maintain all applicable advance guide signs and exit direction signs in place at all times and ensure the driver’s view of these signs is not obstructed. Replace any other removed signs before the end of the work day.

Ensure signing reflectivity for proposed signs conforms to the Attachment 3-1 (Manuals).

Before placing any permanent signs, delineation, third-party signs, or non-standard sign structures, provide GDOT a layout as part of the Final Plans indicating the proposed location of such items. Submit overhead sign structures and locations for review and acceptance by the GDOT Bridge Design and Maintenance Office.

Install an identical speed limit sign (R2-1) on the left side in the median at all locations that a speed limit sign (R2-1) is installed on the right shoulder.

### 16.4.3 Project Signs – Outside the Existing and Proposed ROW
For signs located outside the Existing ROW, Proposed ROW, and Additional Properties, but within a public ROW, install the signs in existing rights of way controlled by local or other Governmental Entities. Coordinate with applicable Governmental Entities for the design, approval, and installation of such signs, including any trailblazing signing required for the Project.

### 16.4.4 Specific Service Signs
No requirements.

### 16.5 Deliverables
As indicated in this Section 16 and in Section 3 (Design and Submittals).

#### 16.5.1 Intersection Design Studies
As needed to support recommendations for intersection layouts and including signing, signalization, and pavement markings.

#### 16.5.2 Final Plans
Submit the Preliminary and Final Plans for the signing, delineation, pavement marking, and signalization for GDOT review and acceptance.

See Section 7 (ROW – Additional Properties) for requirements related to any Additional Property acquisitions needed to place any required signs outside Proposed ROW.
17 INTELLIGENT TRANSPORTATION SYSTEMS

17.1 General
This Section 17 addresses the requirements for the GDOT General Purpose Lane Intelligent Transportation System (GDOT ITS) including requirements for traffic surveillance, traveler information dissemination, incident management, weather stations, communication, and maintenance during construction.

The improvements, infrastructure, and responsibilities for GDOT ITS are generally described below.

17.2 Administrative Requirements

17.2.1 Standards
Provide activities in this Section 17 in accordance with GDOT's ITS Design Manual, GDOT’s ITS Strategic Deployment Plan (SDP), Attachment 3-1 (Manuals), and other provisions of the DB Documents.

Refer to Attachment 17-1 (Special Provision for NaviGAtor ATMS Integration) and Attachment 17-2 (Supplemental Specifications) for installations to be furnished, installed, integrated, and tested.

17.2.2 General Purpose Lane ITS
This work includes GDOT ITS, communication network, power, structures, and other required elements within the Right-of-Way required to accommodate the Project. The GDOT ITS includes Dynamic Message Sign (DMS), Microwave Detection Systems (MDS), Closed Circuit Television (CCTV), Pan Tilt Zoom (PTZ) cameras, Communication hub buildings and HVAC systems, and the communication network including a duct bank and the fiber backbone.

17.2.3 Reserved

17.2.4 Transportation Management Center (TMC) Improvements
If required, Transportation Management Center (TMC) improvements will be managed by GDOT and implemented by the Transportation Management Center System Integrator (TMC SI) and referred to as the NaviGAtor Contractor. The TMC improvements include NaviGAtor System and software modifications, integration services, and other related improvements as necessary to connect, communicate with, and operate GDOT ITS.

Ensure that all software incorporated for any aspect of the Project is compatible with software used by GDOT as provided in the Technical Provisions. Prior to using any software or version of software not then in use by GDOT, obtain written acceptance from GDOT. In addition, provide to GDOT, and assume the cost of, any software, licenses, and training necessary to ensure that GDOT can implement compatible usage of all software. Compatible means that provided electronic files may be loaded or imported and manipulated by GDOT using its software with no
modifications, preparations, or adjustments. Submit all electronic information to GDOT in native format or, if not available, alternate electronic format.

Ensure that the civil infrastructure is in place in accordance with established milestone dates, and coordinate work as required to allow for the TMC System Integrator (SI) to complete their software development, installation, and integration responsibilities with DB Team installed devices.

17.3 Design Requirements

17.3.1 General

For GDOT ITS, it is the DB Team’s responsibility to determine the number and specific locations of all ITS components to meet the requirements as outlined in GDOT’s ITS SDP for the Level I of ITS deployment and the latest ITS Design Manual for design requirements unless prescriptive language is specified elsewhere in the DB Contract. The DB Team has flexibility to offer alternatives for GDOT to consider; however, ensure the locations identified on the ITS layout include devices and infrastructure to meet the traffic management needs of the Project. Review suggested location modifications with GDOT during the ITS design workshop, which is conducted after roadway geometry is established and through the preliminary design process.

Prepare a preliminary and a final GDOT ITS layout, including network communication schematic diagrams and specification, for review and acceptance by GDOT to ensure adequate planning of the ITS implementation and components’ consistency and compatibilities with adjacent GDOT Projects. Ensure the plan provides horizontal and vertical plan location, proposed equipment, proposed structures, and types of materials for the entire ITS. Follow the current version of the GDOT ITS Design Manual for its design.

Conduct all Work necessary to design, procure, furnish, install, integrate (as defined in this Section 17 and associated specifications), and maintain GDOT ITS on the Project, including gantries, electrical power, fiber-optic communications, ITS cabinets, maintenance access, junction boxes, and conduits, all in accordance with GDOT Standard Specifications, Construction of Transportation Systems and Special Provisions contained herein. Ensure each ITS device, regardless of its purpose, supports at a minimum National Transportation Communications for ITS Protocol (NTCIP)-compliant interface protocols so that integration of each device/controller with NaviGAtor is more efficiently supported.

Survey and locate the existing GDOT ITS equipment including all fiber trunk lines, conduit and duct banks, communication hubs, drop fiber and electrical lines, as well as ITS devices and communication devices. Because of the survey and location of existing GDOT ITS equipment, identify and notify GDOT of all ITS devices or communications devices needing repair no later than 60 days prior to NTP 3. GDOT will perform or cause to be performed repairs of those necessary ITS devices or communications devices identified as needing repair. The DB Team is responsible for the ITS system and all communication devices within the Project limits upon issuance of NTP 3. Perform preventative maintenance, respond to problem notifications from GDOT, make any needed repairs or upgrades as necessary, and repair ITS devices or communications damaged by any party during construction.
For each GDOT ITS system, the DB Team is allowed eight hours GDOT ITS downtime to
cutover the new GDOT ITS. Notify GDOT no less than two Business Days before proceeding
with any GDOT ITS Work. Any downtime outside of the 24 hours may result a non-refundable
deduction as listed in the Volume 1, Exhibit 18 (Measures of Liquidated Damages and
Nonrefundable Deductions).

If the Project impacts a Continuous Count Station (CCS) that collects traffic data for GDOT,
notify GDOT at (404) 347-0701 two weeks prior to beginning of construction activities. GDOT
will coordinate with the owner of the count station equipment, who will be responsible for
salvaging.

17.3.2 Microwave Detection Systems

17.3.2.1 Detection Systems Requirements

Ensure MDS is designed in accordance with the GDOT ITS Design Manual, latest edition.

Ensure eight MDS are furnished, installed, integrated, and tested in accordance with GDOT
Standard Specifications:

- Section 682 – Electrical Wire, Cable, and Conduit
- Section 639 – Strain Poles for Overhead Signal Assemblies
- Section 935 – Fiber-optic System
- Section 936 – Closed Circuit Television (CCTV)
- Section 939 – Communication and Electrical Equipment
- Section 940 – NaviGAtor Advanced Transportation Management System Integration

These eight MDS will be co-located with the eight CCTV locations detailed in Section 17.3.3.1
(CCTV General Requirements).

17.3.2.2 Microwave Detection Systems (MDS) Applications

GDOT ITS MDS provides presence detection, vehicle counts, classification, occupancy, and
speed information to the Department’s central ITS management software to support:

- Incident verification and management
- Highway Emergency Response Operator (HERO) dispatching
- Traffic surveillance and control, including traffic signals and ramp meters

Ensure that Microwave Detection Systems proposed for use provide vehicle presence on a
lane-by-lane basis and can detect a minimum of eight detection zones where the farthest lane
at ideal mounting height can detect at a minimum distance of 100 feet.

The Microwave Unit will be a presence detector. It will be suitable for mounting on roadside
poles or on overhead structures at a mounting height determined by the manufacturer, to
provide the following:

- Presence indication of vehicles in its detection zones
- Traffic data that will be transmitted to the controller. Supply all modules as necessary for
  simultaneous communications
• MVDS that allows the user to define the contents of transmitted data
• Unit furnished with the required software for data collection, processing, configuration and set-up, and data logging and retrieval. An operator must be able to use the software to set detector count periods, sensitivities, and other operational features and parameters. The software must be capable of providing both manual and automatic setup and calibration.
• Volume
• Travel direction
• Per vehicle speed and direction (in forward-looking configuration)

17.3.2.3 Functional Requirements for Microwave Detection Systems

This section defines the minimally required functional aspects of the microwave detection system as well as the required accuracy levels. It also outlines the testing process that will be used to determine whether a proposed microwave detection system product meets these specifications.

• Verify that the traffic data collected by the Microwave Detection System is stored within internal non-volatile memory. Verify that data can be retrieved from the system either locally or via requests from computers at the central Transportation Management Center (TMC) over the communications network. Verify that the system configuration data and system software is also stored within internal non-volatile memory.
• Ensure the Microwave Detection System includes computer software for the user to program, calibrate, operate and view current status of all system features using a laptop computer or network-connected workstation at the central TMC. Ensure the system allows the user to view live actuations from the microwave detector with the programmed detectors overlaying a representation of the roadway.
• Ensure the Microwave Detection System configuration data can be uploaded and saved to a laptop or TMC workstation computer for later re-loading to the video detection processor if necessary. Ensure the system user can use a laptop or TMC workstation to reprogram, calibrate, adjust or alter any previously defined detector configurations. Ensure no periodic adjustments or fine-tuning is required except in the case of physical roadway changes such as lane-shifts, new construction or closures.
• Ensure that the system offers an open Application Programming Interface (API) and software development kit (SDK) for GDOT developers and their consultants to integrate the Microwave Detection System with GDOT Central Software or other third-party software and systems. Furnish needed software licenses for the system.

17.3.2.4 Functional Accuracy Requirements for Microwave Detection Systems

Provide a Microwave Detection System that meets the below minimum accuracy requirements for all conditions. Conduct accuracy measurements for the testing with an appropriate sample size of vehicles over a specific time period. Submit to the Engineer the Test plan for accuracy testing at the location that is site-specific to the plans. Consider in the test plans the roadway type (freeway, arterial), location (urban, rural), and traffic conditions to determine appropriate
testing length and sample size. Demonstrate that the following error levels are achievable during testing:

<table>
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<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Time event</td>
<td>10ms</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>±2%</td>
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</table>

<table>
<thead>
<tr>
<th>Parameter (For Type A)</th>
<th>Error Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
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</tr>
<tr>
<td>Lane Occupancy</td>
<td>±10%</td>
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<tr>
<td>Average Speed</td>
<td>±10%</td>
</tr>
<tr>
<td>Length Classification limits</td>
<td>±10%</td>
</tr>
</tbody>
</table>

17.3.3 Closed Circuit Television (CCTV) Subsystem

17.3.3.1 CCTV General Requirements

Ensure CCTV is designed in accordance with the GDOT ITS Design Manual, latest edition.

Ensure eight CCTV are furnished, installed, integrated, and tested in accordance with GDOT Standard Specifications, Construction of Transportation Systems. Two dedicated CCTVs installed to view each DMS. Install the remaining six CCTVs approximately every mile of the 6-mile project.

17.3.3.2 CCTV Applications

GDOT ITS CCTV cameras are used to monitor real-time traffic conditions along the roadway and provide real-time information to support the following:

1. Incident verification and management
2. Highway Emergency Response Operator (HERO) dispatching
3. Traffic surveillance and traffic control

17.3.3.3 CCTV Design Requirements

Design CCTV cameras to be digital IP cameras with digital video streaming capability, and with on-board H.264 encoding in the camera housing to generate the digital video stream. Include ethernet cable for digital video stream.

Early in the preliminary design schedule, submit CCTV design for GDOT approval showing that the CCTV design provides overlapping, continuous coverage between adjacent cameras of the General Purpose Lanes, interchange ramps, and ramp intersections with each side street. The evidence may be a three-dimensional (3D) view of the General Purpose Lanes as viewed from the proposed camera mounting heights above the roadway. Ensure the 3D views cover the entire Project limits and include all possible sight obstructions, including vegetation, existing signs, proposed signs, relocated signs, bridges and overpasses, and vertical and horizontal alignments.
Ensure CCTV poles are of sufficient height to mount all GDOT cameras at nominally 50 feet above the roadway surface. CCTV cameras and VDS units may be mounted on the same poles. Design joint use poles to meet the CCTV camera’s mounting height of 50 feet above the roadway. Do not mount cameras more than 54 feet above the base of the pole or the area where a bucket truck can park for maintenance of the camera. Ensure the distance between the bucket truck parking location and the camera does not require a bucket truck arm length of greater than 70 feet.

If CCTV cameras are connected to overhead sign trusses,

1. ensure the maximum 15-foot tubular extension is connected to the sign structure upright and not to any truss portion of the structure.
2. ensure tubular extensions meet the minimum vibration requirements described herein.
3. perform and submit for approval analysis verifying that the sign structure can accommodate the additional loading in conformance with the DB Documents.

Design any pole or upright with a CCTV camera mounted to it to be rigid with minimum vibration due to wind. Ensure total deflection at the CCTV mounting height meets the requirements set for strain poles for ATMS applications per GDOT Standard Specifications, Construction of Transportation Systems Section 639. Include deflection design calculations in the required structure design Submittals.

### 17.3.3.4 CCTV Detailed Technical Requirements / Specifications

GDOT CCTV technical requirements including Submittals, materials, construction, and testing are described in GDOT Standard Specifications, Construction of Transportation Systems Section 936 – Closed Circuit Television (CCTV). CCTV integration is described in GDOT Standard Specifications, Construction of Transportation Systems Section 940, NaviGAtor Advanced Transportation Management System Integration.

Ensure all GDOT CCTV cameras pan-tilt-zoom pressurized dome cameras meeting requirements described in GDOT Standard Specifications, Construction of Transportation Systems Section 936–Closed Circuit Television (CCTV).

### 17.3.4 Dynamic Message Sign (DMS) Subsystems

#### 17.3.4.1 General DMS Requirements

Design, furnish, install, integrate, and test two DMS on the north end of the project (one in the NB and one in the SB direction) within one and ½ miles of US 129 on new structures.

Ensure all DMS designs meet the following requirements:

- Design DMS in accordance with the latest GDOT ITS Design Manual
- Furnish, install, integrate, and test DMSs in accordance with the following sections of GDOT Standard Specifications, Construction of Transportation Systems:
  - Section 631 – Permanent Changeable Message Signs
  - Section 682 – Electrical Wire, Cable, and Conduit
  - Section 797 – Hub Building
17.3.4.2 DMS Applications

Walk-in, overhead DMS are used to provide travelers with information on travel times, traffic incidents, road conditions, weather conditions, and vehicle alerts such as Amber Alerts. Coordinate and finalize locations of DMS with GDOT TMC during the design phase. DMS signs will be controlled from the GDOT TMC.

17.3.4.3 DMS Design Requirements

Design DMS to meet the following requirements:

- DMSs are full-color, full matrix LED displays.
- DMSs, along with associated controllers and software, can display both text and *Manual of Uniform Traffic Control Devices (MUTCD)*, GDOT approved graphical images and shapes.
- DMSs display, at a minimum, the colors prescribed in the *MUTCD*, section 1A.12.
- CMSs that are required to show graphics or display 18-inch or smaller font sizes have a pixel pitch of 20 mm.
- DMS locations conform to sign spacing specifications in the *MUTCD*.
- Overhead CMSs are provided with walk-in housing and can display three lines by 21 18-inch characters.

GDOT CMS technical requirements are described in GDOT *Standard Specifications, Construction of Transportation Systems* 631—Permanent Changeable Message Signs.

17.3.5 Reserved

17.3.6 Communications Network

17.3.6.1 Communications Network General Requirements

Design, furnish, install, integrate, and test a communication network for the GDOT ITS between the hub building at SR 53 and I-85 and the proposed hub building at SR 11/US 129 and I-85.

Construct the proposed hub buildings in the approximate location and building dimensions detailed below. Ensure hub buildings meet the requirements of Attachment 17-4 (GDOT Special Provision 797–Hub Buildings) and the project specifications. Existing and proposed hub buildings that may be used for this project are listed below:

- Hub: X
- Owner/Occupant: GDOT
- Dimension: 12 ft x 16 ft
- Location: Southwest quadrant of US 129 and I-85 interchange
- Status: Proposed

Design, furnish, install, integrate, and test the fiber-optic backbone and laterals for the ITS. Ensure the backbone is single-mode fiber-optic cable for the GDOT networks. Ensure the long
haul and distribution networks are Internet Protocol (IP) over Ethernet, and that communication drops to local GDOT ITS cabinets are also single-mode fiber-optic cable and IP over Ethernet. Design, furnish, and install communication between the ITS cabinets and the local devices attached to the cabinet based on the requirements of the device or devices.

The communication and network layout focuses on the existing and proposed Communication Hub buildings that will aggregate distribution layer Ethernet network for transmission to GDOT.

Verify that all existing ducts to be used are open, with no blockages, water, or breaks. Replace damaged conduits or install new duct banks around the blockage at no additional cost to GDOT.

Do not install a duct bank under any paved surface except when crossing ramps or other Travel Lanes. Install new conduit duct banks approximately 10 feet inside the existing or proposed Interstate Right-of-Way where feasible. Where vegetation or other obstructions hinder installation of the duct banks approximately 10 feet from the Right-of-Way line, the DB Team may modify the duct banks' location for GDOT review and approval.

### 17.3.6.2 Communication Network Design Requirements

Design the communication infrastructure and network in accordance with the latest GDOT NaviGAtor ITS Design Manual.

Conduct a communication network design kick-off meeting with GDOT prior to beginning design efforts. Use the kick-off meeting to confirm GDOT communication network requirements.

When conduit or duct banks are installed under roadways or shoulders for lateral crossings, install the conduit and duct banks by directional boring as shown in GDOT ITS detail drawings.

GDOT ITS shall be served by physically and logically separate communication networks. All conduit, conduit access (such as Electrical Communication Boxes (ECBs) and pull boxes), fiber and communication cabling, cabinets, patch panels, network switches, and terminal servers shall be solely dedicated to GDOT. Dedicated conduit shall be within the same conduit duct bank. Every conduit in each duct bank shall have a unique color and/or striping pattern. The coloring shall be consistent through the Project corridor. Do not install fiber-optic, other data communication, or composite cable in the same conduit as an electrical power service cable.

Design the communication network for the GDOT ITS to be end-to-end, from the field device to the NaviGAtor TMC including the ITS cabinets and existing communication hub buildings.

Include in the design cabinet dimensions, communication shelf slots, network bandwidth capacity, conduit capacity, backbone fiber availability, and electrical circuit capacity.

Design the fiber-optic backbone along the General Purpose Lanes. Ensure all GDOT ITS data is aggregated to 1 GB backbone network at designated communication hub buildings at the locations listed in this Section 17.3.6, and within existing Communication Hub buildings.

All fibers installed under this project shall be terminated at communication hubs or termination points as designated for GDOT. This shall include terminating each fiber to a rack mounted fiber distribution center. Provide patch cords for each connection between fibers at a termination fiber distribution center.
Determine the link loss budget analysis for all fiber-optic links.

Design a backbone communication system with fiber-optic cables installed along the project area. Use lateral drop cabling to reach GDOT Sites. If GDOT provides ITS details during the design phase, adapt the communication network design to accommodate the GDOT communication network requirements.

General design criteria elements for GDOT ITS networks are as follows:

- Provide an internet protocol (IP) Ethernet based system with a fully redundant architecture, allowing automatic, self-healing, and cutover of data flow to a secondary path or segment in the case of a primary equipment failure or fiber break. The ITS communication system backbone shall be rated for a Gigabit transfer rate, minimum. ITS field switches shall be rated for a 1-gigabit uplink transfer rate, minimum. Downlink ports at the field switches shall be 10/100BaseT.
- Provide Network Switch, Layer 3 Gig-E to connect the local ITS system to the GDOT wide area network (WAN) at the existing and proposed Communication Hub locations. The Layer 3 network switch shall be designed with adequate 1-gigabit and 10/100BaseT ports to support the network architecture and design.
- Provide field network switch, Layer 2 10/100BaseT in each ITS cabinet to support connectivity of the ITS devices connected to the cabinet. Each Layer 2 switch will be designed with adequate ports to support communication with all devices connected to the cabinet. A minimum of four spare ports shall be provided.
- Ensure each field network switch provides a primary and secondary fiber path from the field cabinet to the Communication Hub.
- The fiber layout for GDOT ITS shall provide a daisy-chain. The daisy-chain shall be confirmed with GDOT during the ITS design workshops and preliminary design efforts; The maximum number of Layer 2 field network switches forming a network path between an end device (GDOT ITS) and a Communication Hub based data aggregating Layer 3 network switch shall not exceed eight per fiber pair. The calculated data throughput assigned to any sub-network path shall not exceed one-third of the path’s throughput capacity.
- New devices and existing devices shall not be assigned within the same network path or otherwise daisy-chained to avoid possible inconsistencies in communication protocols.
- The DB Team shall determine the quantity of fibers required for the backbone communication system and local connectivity. The DB Team shall provide all calculations required to support the design determination. Include capacity for 100 percent system expansion. The DB Team shall provide 100 percent spare fibers that shall be continuous along any section of the Project and continuous from end to end of the project. The number of fibers shall be rounded up to the next larger standard fiber cable size, for example, if the calculation determine 40 fibers are needed, 80 shall be provided rounded up to 96 which is the nearest standard cable size.
- All drop fiber shall be 12-fiber single mode cables, all the 12 fibers of the drop cable shall be spliced to the Trunk cable.
- The GDOT ITS also includes new Hub buildings. The new communication Hubs shall be designed to meet all GDOT design guidance and construction specifications and GDOT
equipment requirements. The Communication Hub building including but not limited to, the building, foundation, conduit cutouts and entrances, air conditioning systems, fencing, grounding, paving, vertical and overhead cable runways and trays, electrical service, electrical conductors, and electrical pull boxes will be designed to meet all the requirements shown on GDOT ITS Detail ITS-13 Hub Details – Hub except that the dimension of the hub buildings shall be as shown in table above, exterior dimensions and 9-foot 6-inch interior building height measured from the finished floor to the finished ceiling. The DB Team shall verify that the door of the building can accommodate GDOT’s proposed Equipment racks. The hub buildings shall be designed so that the air conditioning units are installed on the roof of the hub building. The layout of the Communication Hub buildings shall be designed for the equipment racks to be installed on the long dimension of the Communication Hub building. The design will ensure that one row of equipment racks can be installed, powered and cabled. The Communication Hub building will be designed to enclose an equipment rack, electrical and fiber cable management, and a service technician work table and two chairs. The Communication Hub building shall be designed to include lightning protection, grounding to 5 ohms or less and surge suppression. The Hub building shall be enclosed by fencing which meets the requirements of ITS Design Manual and GDOT Standard Specifications. The DB Team shall coordinate the design of the Communication Hub building with approval by GDOT.

- DB Team shall ensure new Communication Hub buildings are able to utilize a mobile emergency generator during power outages. Route the main power to a manual transfer switch located with the mobile emergency generator connection installed on the outside of the shelter. The emergency generator connection shall allow GDOT personnel to power the site from a portable generator in the event that the commercial power is lost. Route the resulting main power to a 42-circuit distribution panel and through the associated AC surge protective devices. Section 17.4.6.1 (Provisions for Temporary Generators for Hub Buildings) provides requirements to allow mobile generator to power Hub buildings.

17.3.7 Reserved

17.3.8 ITS Electrical Service (Power) Requirements
Coordinate with the electrical power companies and provide electrical power for all ITS included in the Project.

17.3.9 Electrical Design Requirements

17.3.9.1 General Electrical Design Requirements
Ensure electrical power is designed based on the electrical service loads at each location where power is required. Electrical service, wire sizes, transformers, surge suppression, meters, grounding, lightning protection, and uninterruptable power supply (UPS) are all considered part of the electrical power systems.
Ensure that the electrical power company installs electrical usage meters for GDOT equipment at locations where electrical power service is provided to GDOT.

Design electrical loads for all ITS cabinets, hub buildings, and GDOT ITS devices.

Provide electrical power calculations to GDOT for review and approval during the design. Include in the power calculations power loading, transformers, and conductor sizes based on National Electrical Code (NEC) standards. Do not provide electrical service at a location less than 120-volt, 20 amps AC. Base electrical load at each ITS on a factor of two times the calculated load based on the equipment being provided for that cabinet to allow for future expansion and use of maintenance tools.

In addition to other requirements referenced herein, space electric pull boxes not more than 500 feet apart. Do not install fiber-optic or other data communication or composite cable in the same conduit or pull box as electrical power service cable.

Install mechanical theft deterrent devices in all Project electrical conduits and electrical pull boxes to prevent the removal of electrical wiring and to prevent unauthorized access. Use rubber stopper mechanical theft deterrent devices that compress against the electrical wiring and prevent the wires from being easily pulled through the conduits or alternate as acceptable to GDOT. Also install electrical pull box lids that contain locking mechanisms that works with the use of cams to prevent unauthorized access.

Ensure voltage design drop calculations comply with the suggested limits defined in NEC Article 210.19 (A) (1) Informational Note 4 and NEC Article 215.2 (A)(1)(b) Informational Note 2. Ensure these calculations define all service points, circuits emanating from those points, details of all loads on all circuits, the nominal voltage on each circuit, the voltage drop for each link of each circuit, the percent voltage drop for each circuit, and the wire size selected for each link of each circuit. Include sizing and ratings of all circuit breakers, transformers, fused switches, and transfer switches planned for installation. Submit these calculations with the preliminary and final design Submittals and with subsequent Submittals with all data appropriately updated. Include an allowance of 9.0 Amps at the end of the circuit for a convenience outlet. Provide transformers, where used, with ± 2.5% and ± 5% voltage taps. Do not use to fulfill the voltage drop and wire size requirements of these minimum technical requirements.

Ensure the circuits from a power service point are separate circuits (running either both north and south or east and west), each with its individual circuit breaker provided. Provide a main disconnect circuit breaker at each power service point.

### 17.3.9.2 Lightning Protection Design Requirements

Design all CCTV, CMS, and MDS poles (including sign structures with ITS) to include lightning protection systems per the requirements of Attachment 17-3 (Surge Protection Systems and Devices) and as described herein. Ensure the top of the lightning rod is at least two feet above the highest point or top of all ITS devices attached near the top of the pole and is mounted within a 60-degree cone of protection measured from the top of the lightning rod or the one that provides the most protection for the ITS device.
Ensure each ITS cabinet, ITS pole, and hub building has an exterior earth-ground ring consisting of a system of ground rods connected to a ring of a #2 AWG stranded bare copper ground wire. Ensure the earth ring includes a minimum of two ground rods for ITS cabinets and ITS poles. Place ground rods at least 40 feet from adjacent ground rods. Connect the rings with #2 AWG stranded bare copper ground wire when ground rods adjacent installations are within 100 feet of each other. Include at each site lightning protection that is also connected to the site’s earth-ground ring. Measure and document the ground with a resistance of five ohms or less.

When new GDOT ITS devices are placed on an existing structure, update the structure’s lightning protection system to the lightning protection requirements for new structures.

17.3.9.3 Grounding Design Requirements

Design the grounding system so that the top of all grounding rods is installed in an electrical service Type 2 pull box to facilitate testing and periodic retesting of the grounding array at each ITS pole, ITS cabinet, and hub building. Design the grounding conductor to be exothermically connected to the ground rod at an elevation of 12 inches below ground line. Ensure conformity by all ITS equipment and enclosures located at a communication hub site to the latest adopted NEC for bonding and grounding. Design grounding arrays to be interconnected for cabinets, poles, lightning systems, etc., that are within 40 feet of each other. Accurately show the actual locations of buried connections and ground rods in the Record Drawings.

When new GDOT devices are placed on an existing structure, update the grounding system to current specifications.

Ensure the grounding meets the minimum requirements of NEC.

17.3.9.4 Uninterruptable Power Supply (UPS) Design Requirements

For GDOT ITS locations, design the uninterruptable power supply (UPS) to meet the requirements in the GDOT ITS Design Manual, GDOT Standard Specifications, Construction of Transportation Systems Section 939. Also ensure the UPS design supports GDOT equipment in all new hub buildings and be sure to designate space within the hub buildings for the installation of the GDOT UPS.

17.3.10 Testing and Acceptance

Submit test plans to GDOT for review and acceptance for the various components of the ITS including VDS, CCTV, CMS, communications network, weather stations, and electrical service.

Test specific ITS technologies, electrical components, communication network and infrastructure, communication hubs and equipment cabinets to the test requirements sections in the GDOT Standard Specifications, Construction of Transportation Systems/Special Provisions.

Conduct GDOT ITS, communication hub, and communication network testing and final acceptance processes according to the applicable GDOT Standard Specifications, Construction of Transportation Systems, Special Provisions, and as described herein.
Submit operational test results for each unit or system to GDOT for approval. Ensure the test results indicate that the unit or system conforms to the manufacturer’s specifications and the Contract Documents. Adjust, relocate, or modify items that do not conform to the manufacturer’s specifications and the Contract Documents as necessary to meet the requirements. Submit new test results after corrections have been made that bring the units or systems into conformity.

### 17.4 Construction Requirements

#### 17.4.1 Microwave Detection System (MDS) Implementation Requirements

For GDOT MDS subsystems, the DB Team shall furnish, install, integrate, test, and make available for GDOT’s testing and verification, and resolve any installation and configuration issues prior to Final Acceptance. All MDS equipment shall be new. No relocation of existing equipment is permitted as a part of this Project. The Developer shall prepare and implement MDS testing plan for GDOT’s approval. The testing plan shall meet the requirements of GDOT Standard Specifications Section 937 – Microwave Detection System.

Coordinate return of salvageable equipment with the GDOT State ITS Engineer at (404) 635-2849.

Place all salvaged equipment on pallets, containing a list of materials with the description of each item, their condition, and equipment serial numbers. Deliver salvaged equipment to the Traffic Signal Electrical Facility (TSEF) located at 935 East Confederate Avenue, SE, Building 5, Atlanta, GA 30316-2531.

For MDS installations ensure the installed devices meet the functionality and accuracy requirements detailed in Section 17.3.2.3 (Functional Requirements of Microwave Detection Systems) and Section 17.3.2.4 (Functional Accuracy Requirements of Microwave Detection Systems).

#### 17.4.2 CCTV Implementation Requirements

For CCTV subsystems that are replacements for removed/relocated CCTV, furnish, install, integrate, test, and make available for GDOT’s use prior to deactivation and removal of the existing CCTV. Ensure all replacement CCTV equipment is new. No relocation of existing equipment is permitted as a part of this Project. Provide replaced and removed devices to GDOT.

Coordinate return of salvageable equipment with the GDOT State ITS Engineer at (404) 635-2849.

Place all salvaged equipment on pallets, containing a list of materials with the description of each item, their condition, and equipment serial numbers. Deliver salvaged equipment to the TSEF located at 935 East Confederate Avenue, SE, Building 5, Atlanta, GA 30316-2531.

Install camera system assemblies on new concrete strain poles unless installed on existing or other sign structures.
Prepare and implement a CCTV integration plan for GDOT’s approval. Ensure the integration plan meets the requirements of GDOT Standard Specifications, Construction of Transportation Systems Section 940–NaviGAtor Advanced Transportation Management System Integration.

### 17.4.3 DMS Implementation Requirements
For DMSs that are replacements for removed existing DMSs, furnish, install, integrate, test, and turn it over to the Department’s use prior to deactivation and removal of the existing DMS. All replacement DMS equipment shall be new. No relocation of existing equipment is permitted as a part of this Project. The DB Team shall coordinate return of salvageable equipment with GDOT ITS Engineer at (404) 635-2849.

All salvaged equipment should be placed on pallets and include a list of materials with the description of each item, their condition, and equipment serial numbers. Deliver salvaged equipment to the Traffic Signal Electrical Facility (TSEF) located at 935 East Confederate Avenue, SE, Building 5, Atlanta, GA 30316-2531.

Prepare and implement a GDOT DMS integration plan for GDOT’s approval. Ensure the integration plan meets the requirements of GDOT Standard Specifications, Construction of Transportation Systems Section 940–NaviGAtor Advanced Transportation Management System Integration. Prepare and implement a CMS testing plan for GDOT’s approval. Ensure the testing plan meets the requirements of GDOT Standard Specifications, Construction of Transportation Systems Section 631 – Permanent Changeable Message Signs.

### 17.4.4 Communication Network Implementation Requirements
Furnish, install, integrate, and test the communication network in accordance with the GDOT Standard Specifications, Construction of Transportation Systems, Special Provisions and Supplemental Special Provisions.

Provide evidence of five similar projects completed by the DB Team that consisted of wireless communications installation, testing, and system optimization. Also provide evidence that the technical staff who will perform the wireless system work on the project have a minimum of three years of similar experience and are certified by the manufacturer for installation and maintenance of their equipment.

Demonstrate three continuous years of wireless communications services with conducting radio installation studies consisting of the following:

1. Signal noise studies
2. Spectrum analysis
3. Antenna gain/radio power calculations
4. System attenuation
5. Measurement of standing wave ratios
6. Installation and optimization of broadband radio systems consisting of:
   a. Equipment installation
   b. Configuration of radios
   c. Antenna calibration
Section 17—ITS

17.4.5 Reserved

17.4.6 Electrical Implementation Requirements

Furnish, install, and test the electrical systems as required to meet the power and UPS demand of each communication hub location and GDOT ITS cabinet location. Furnish, install, and test the electrical services as required by GDOT Specification 682, the approved Plans, and herein.

At locations (except hub buildings) where electrical power service is provided to GDOT ITS cabinets and devices, ensure that the electrical power company installs an electrical usage meters for GDOT equipment. At each new hub building, ensure that the electrical power company installs one electrical usage meter for the hub building.

Ensure all voltage being provided to the cabinet is in accordance with the approved electrical design calculations. Test the power from the electrical service disconnect, to the transformer, to the meters, and into the cabinets.

For GDOT ITS, furnish and install all components of the electrical power systems to ensure complete and functioning systems, from equipment cabinets to and including devices. Furnish and install the electrical systems to include all required device power supplies, grounding, lightning protection and surge suppression. Furnish and install surge suppression on both ends of any underground electrical cable or composite cable carrying electrical power to any device to protect against surges induced from a lightning strike on the ground.

Install and ensure electrical service is ready for connection before ITS cabinets and CMS are installed. Connect and activate electrical services for all ITS cabinets, hub buildings, and CMS within 24 hours of installation of the cabinet or CMS.

17.4.6.1 Provisions for Temporary Generators for Hub Buildings

17.4.6.1.1 Generator and Auxiliary Power Connection

Furnish new hub buildings that have provisions for the connection of an external power source, such as a portable generator, through a weatherproof, water-resistant, secure interface to back up both GDOT electrical services. This feature should allow authorized personnel to access, connect, and secure an external power source to the hub buildings to restore power within five minutes of arrival time at the hub buildings. Provide each hub building a manual transfer switch rated equal to or higher than the design load of the hub’s main breaker and the generator input twist-lock connector rating. Ensure that the transfer switch provides a means of switching between normal utility power and auxiliary backup generator power. Ensure that the switching time between sources is no longer than 250 milliseconds. Ensure that the transfer switch meets UL 1008. Ensure that the transfer switch does not allow simultaneous active power from more than one source and does not allow generator backflow into normal utility AC circuits.
17.4.6.1.2 Manual Transfer Switch

Ensure the manual transfer switch is a two-position switch. Label the switch positions as **Generator Power** and **Utility Power**. Equip the transfer switch with a **Utility-On** indicator, which will illuminate when normal utility power service is available, and the switch is in the **Generator Power** position. The indicator must turn off when the transfer switch is moved to the **Utility Power** position.

17.4.6.1.3 Generator Access Panel

Include a generator connection panel inside the hub buildings, next to the main electrical services panels. The generator connection panel shall consist of, at a minimum, a manual transfer switch. A generator hooks up with a four-prong, 30-amp twist-lock connector with recessed male contacts shall be installed on the outside wall, minimum two feet off the ground, of each hub building. The generator hooks up shall be enclosed in a weatherproof and dustproof enclosure. The enclosure shall have a lockable exterior door. Ensure that this access door is labeled as “Generator Access Door”, equipped with a tamper-resistant hinge. The access door shall be provided with a #2 lock unless otherwise specified in the Plans. The access door must include a weatherproof opening for the generator cable. The generator hookup compartment shall allow closing and locking of the access door when the generator cable is connected.

Connect wiring from the main electrical service panel to the transfer switch. Connect the alternate power source’s wiring on the transfer switch to a receptacle that can accept a 240 VAC generator cord. Install a power service wire between the transfer switch and the existing power distribution panel inside the hub.

17.4.7 Warranty

Provide all warranties as set forth in the DBA and specified in the GDOT Standard Specifications, Construction of Transportation Systems, Special Provisions and contained herein. In the event of conflicting warranty periods between the above, provide the longest warranty period identified. All warranties commence upon Final Acceptance. Any additional costs incurred by the DB Team to meet the warranty requirements are the sole responsibility of the DB Team.

17.4.8 Protection of Existing ITS Signalization

Ensure the existing GDOT ITS are protected from damage. Damage caused by the DB Team to GDOT ITS, due to failure to locate any existing or installed GDOT ITS within the Project limits, is the responsibility of the DB Team. GDOT (or their respective maintenance contractors) will repair or replace the damaged ITS field element or infrastructure; the DB Team is responsible for the total repair or replacement cost along with all non-refundable deductions per Volume 1, Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions).

Plan and coordinate with GDOT any necessary disruption to the existing GDOT ITS no less than two Business Days before proceeding with the Work.

Ensure that all construction activities avoid impacts to the existing weather station and camera pole at approximately mile post 136.8 (I-85 NB just north of the SR 11 overpass).
17.4.9 Existing System Inventory
Conduct a field survey and provide a complete inventory of all ITS components and infrastructure in the Project limits within 30 Days of NTP 1. Include in the inventory components and infrastructure to be removed and replaced, to be removed and relocated, and to be left in place.

17.4.10 ITS Locates
Locate the electrical and fiber-optic conduits and cables within the construction limits. Obtain available ITS as-built and location information from GDOT upon NTP 3 and be fully responsible for locating all existing, temporary, and new ITS infrastructure and facilities until Final Acceptance. Be responsible for providing ITS locates requested by other consultants, contractors and/or utility companies within 48 hours of receiving requests from GDOT or from any other source from NTP 3 to Final Acceptance. Notify GDOT of the date and location of each locate request and the date at which the locate was completed.

Fully cooperate with all Utility Owners during the design, survey and construction activities of the Project. Call Georgia 811 a minimum of 48 hours and a maximum of 96 hours before any excavation work.

17.4.11 ITS Preventive Maintenance
GDOT (and their respective maintenance contractors) will continue to provide routine and on-call maintenance for all ITS equipment within the Project area during the Term. Cooperate with GDOT by accommodating access to the site for GDOT’s maintenance contractor to perform routine or on-call maintenance.

17.4.12 ITS Repair and Replacement
Throughout the construction period until the Final Acceptance of the Project, notify GDOT of any damage to the existing ITS field element or infrastructure that is caused by the DB Team, either due to the negligence or direct action of the DB Team as soon as possible. GDOT (or their respective maintenance contractors) will repair or replace the damaged ITS field element or infrastructure; the DB Team is responsible for the total repair or replacement cost along with all non-refundable deductions per Volume 1, Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions).

If an existing ITS element or infrastructure needs to be taken out of service due to construction related relocation or interruption or as required by the Project specifications, provide GDOT written notice 72 hours in advance before taking control of the devices. Replace any impacted devices with an equivalent in new condition or per the Project specifications. All replacement devices are subject to the testing and acceptance requirements specified in the Project specifications.
17.5 Deliverables

17.5.1 CCTV Designs

17.5.2 Sign Structure Analysis

As indicated in this Section 17 and in Section 3 (Design and Submittals).
18 TRAFFIC CONTROL

18.1 General
Provide for the safe and efficient movement of people, goods, and services through and around the Project while minimizing negative impacts to users, residents, and businesses.

18.2 Administrative Requirements

18.2.1 Standards
Provide activities in this section in accordance with Attachment 18-1 (Special Provision 150 – Traffic Control), Attachment 3-1 (Manuals), Government Approvals, and other provisions of the DB Agreement.

18.2.2 Worksite Traffic Control Supervisor (WTCS)
The DBT shall provide a qualified individual as the WTCS to be approved by GDOT. The qualifications of the WTCS are as follows:

- Current certification by either the American Traffic Safety Services Association (ATSSA) Work Site Traffic Supervisor Certification program or the National Safety Council Certification program. On-line classes will not be accepted.

- Trained in safe traffic control practices in accordance with Part 6 of the MUTCD.

- Provide phone number(s) where WTCS can be reached 24 hours per day, seven days per week.

The WTCS is responsible for selecting, installing, and maintaining all traffic control devices in accordance with the plans, specifications, special provisions, and the MUTCD. The WTCS reviews modifications to traffic control plans/devices as required by sequence of operations or staged construction. The WTCS supervises the initial installation of traffic control devices. Prior to the beginning of construction activities within the limits of the traffic control area, GDOT will review the initial traffic control installation.

The WTCS shall be available on a 24-hour basis to perform duties. If the Work requires traffic control activities to be performed during the daylight and nighttime hours, the DB Team shall provide an additional WTCS to cover the second shift. Any additional WTCS shall meet the same requirements and qualifications as the primary WTCS and shall be accepted by GDOT prior to beginning any traffic control duties. The WTCS's traffic control responsibilities have priority over all other assigned duties.

The WTCS has full authority to act on behalf of the DB Team in administering the Traffic Control Plan.

Ensure the WTCS has a copy of Part 6 of the MUTCD and the Contract on the Site. Copies of the current MUTCD may be obtained from the FHWA web page at http://mutcd.fhwa.dot.gov.
Ensure that any Work performed on interstate highway or limited access highway right-of-way that requires traffic control is supervised by a submitted/approved certified WTCS. Perform no work requiring traffic control unless the certified WTCS is on the work site. Failure to maintain a Certified WTCS on the work site will be considered as non-performance under Volume 1, Exhibit 18 (Measures of Liquidated Damages and Nonrefundable Deductions).

Ensure the WTCS is available to maintain traffic control devices with access to all personnel, materials, and equipment necessary to respond effectively to an emergency within forty-five minutes of notification of the emergency.

Ensure the WTCS performs inspections, at a minimum, once a month to maintain traffic control, and weekly traffic control inspections for all interstate and limited access highways. The inspections will start with the installation of the advance warning signs and continue until a Maintenance Acceptance is issued or when the punch list is completed.

Ensure the WTCS includes both daytime and nighttime reviews in an inspection. Report the inspection to GDOT on a Traffic Control Inspection Report (TC-1). Correct routine deficiencies within a 24-hour period unless modified by the special conditions or by GDOT. Failure to comply with these provisions are grounds for dismissal from the duties of WTCS and/or removal of the WTCS from the Project. Failure of the WTCS to execute his duties will be considered as non-performance. GDOT will periodically review the Work for compliance with the requirements of the Traffic Control Plan.

GDOT may allow the DB Team’s Project superintendent, foreman, subcontractor, or other designated personnel to serve as the WTCS on projects where traffic control duties do not require full time WCTS supervision, as long as the individual meets the requirements and performs the duties of a WTCS and satisfactory results are obtained.

### 18.3 Design Requirements

#### 18.3.1 Transportation Management Plan

Prepare and implement a Transportation Management Plan (TMP), if required, that meets the requirements of the FHWA Work Zone Mobility and Safety Program which can be found at:


Include in the TMP descriptions of the qualifications and duties of the Worksite Traffic Control Supervisor (WTCS), and other personnel with traffic control responsibilities. Also include the following:

1. Procedures to identify and incorporate the needs of transit operators, Utility Owners, Governmental Entities, local governmental agencies, emergency service providers, school districts, business owners, and other related users, Customer Groups or entities in the Project corridor and surrounding affected areas
2. Procedures for obtaining acceptance of detours, road and lane closures, and other traffic pattern modifications from applicable Governmental Entities, as well as the
implementation and maintenance of those modifications. Ensure these procedures encompass:

a. Notify all local county representatives, first responders, school systems, and post legal notice in local paper 30 days prior to implementing any detours.

b. Notification of the traveling public by placing CMSs a minimum of seven days in advance of actual roadway closure or major traffic modifications. When possible, coordinate and utilize overhead changeable message signs on the regional ITS system.

c. Utilization of work zone law enforcement for mainline lane closures.

3. Procedures for signing and marking transitions during construction from one stage to the next and from interim to permanent signing and marking

4. Procedures for maintenance and replacement of traffic control devices, including pavement markings and traffic barriers, if used

5. Procedures for regular evaluation and modification of traffic signal timings including those affected by detours) and procedures for all affected signals to include implementation, testing, and maintenance, as well as GDOT acceptance, and any necessary local Governmental entity acceptance

6. Procedures to coordinate with the appropriate Governmental Entities regarding operating signal networks along the Project or Project detour routes to ensure temporary system compatibility, establish responsibilities for temporary signal installation, maintenance, operation and removal, and coordinate traffic signal timing with local signal networks

7. Procedures and processes for the safe ingress and egress of construction vehicles in the work zone

8. Provisions for continuous access to established truck routes and Hazardous Material (HazMat) routes, and for suitable detour routes, including obtaining any acceptances required by the appropriate Governmental Entities for these uses

9. Procedures for modification of plans as needed to adapt to current Project circumstances

10. Procedures for communication of TMP information, if required, to the DB Team’s public information personnel, and for public notification of maintenance of traffic issues in conjunction with the requirements of Section 2.7 (Public Information and Communications)

11. Descriptions of contact methods, personnel available, and response times for any deficiencies or Emergency conditions requiring attention during off-hours

12. Procedures and plans for bridge construction. Include the placement of cranes, the operation and swing of cranes, delivery of beams, staging of beams, and any other equipment or materials over or immediately adjacent to traffic

Submit the TMP within 120 days from NTP 1. Obtain GDOT acceptance prior to NTP 3.

Ensure the safe, convenient passage of the traveling public at all times. Prepare contingency traffic control plans for use in relieving travel delays. If in GDOT’s sole opinion, sustained traffic control placement creates an unnecessary hindrance to the travelling public, implement
contingency plans that will either alleviate traffic congestion or cease traffic interruptions immediately upon notification from GDOT.

Develop a detailed plan for all Project detours, including a narrative of all detour activities, schedules, timelines, and maps, and include it within the Transportation Management Plan (TMP). Include descriptions of the approach for communicating this information to the traveling public.

18.3.2 Traffic Control Plans

Use the procedures in the TMP (if applicable) and the guidelines of the MUTCD, AASHTO’s Roadside Design Guide, and comply with GDOT Special Provision Section 150 – Traffic Control, to develop detailed traffic control plans which provide for all Construction Phases and construction stages, as well as all required traffic shifts procedures.

Produce a traffic control plan for every Construction Phase that impacts traffic. Submit each traffic control plan to GDOT for review a minimum of fourteen days prior to implementation. Include in the traffic control plan details for all detours, traffic control devices, striping, and signage applicable to each Construction Phase. Ensure information included in the traffic control plans is of sufficient detail to allow verification of design criteria and safety requirements, including typical sections, alignment, striping layout, drop off conditions, and temporary drainage. Clearly designate in the traffic control plans all temporary reductions in speed limits. Changes to posted speed limits are not allowed unless specific prior acceptance is granted by GDOT.

Separate opposing traffic on a divided roadway with appropriate traffic control devices in accordance with the MUTCD based on the roadway Design Speed and Attachment 3-1 (Manuals).

Maintain signing continuity on all active roadways within or intersecting the Project at all times.

Ensure all streets and intersections remain open to traffic to the greatest extent possible by constructing the Work in stages, and maintain access to all adjacent streets and provide for ingress and egress to public and private properties at all times during the term of the Project.

Prepare public information notices, if required, in coordination with Section 2.2.3 (Communication Support) in advance of the implementation of any lane closures or traffic switches. These notices are referred to as Traffic Advisories.

Provide a minimum of six (6) changeable message signs for use as needed. Four (4) signs should be located on I-85. Two (2) signs should be located on overpass road detour routes. Place and maintain messages on all message boards 24 hours a day, seven days a week, as directed by GDOT. Ensure the changeable message signs meet all requirements of Standard Specification Section 632, Changeable Message Sign, Portable Type 3. Failure to respond to the direction of GDOT within 45 minutes will result in the assessment of non-refundable deductions.
18.3.2.1 Roadway Guidelines

Produce traffic control plans for periods of construction in accordance with Attachment 3-1 (Manuals), GDOT Special Provision Section 150, and the DB Documents.

18.3.2.1.1 Design Parameters for Traffic Control

**Design Vehicle:** Accommodate a design vehicle via turning movements specified by the GDOT Design Policy Manual for specific road classifications. Turning movements on all other local streets and driveways will, at a minimum, provide similar characteristics as existing Geometry.

**Work Zone Speed Limits:** Ensure the work zone speed limits on Interstate and State Highways are in conformance with GDOT Special Provision Section 150. Maintain AASHTO stopping sight distance during construction.

**Number of Lanes:** Ensure the minimum number of lanes to be maintained is the number of lanes currently available on each controlled access facility except as allowed by this Section 18. Lane closures on other roadways may be considered as long as all traffic patterns and accesses are not reduced and are maintained.

**Lane Widths:** During construction, the minimum lane width for main lanes, frontage roads, and major crossing streets is 11 feet. For minor crossing streets, GDOT may, in its sole discretion, allow ten-foot lanes in limited circumstances during construction for short distances after reviewing the DB Team’s traffic control plan. See Section 18.3.2 (Traffic Control Plans) for additional information.

18.3.2.1.2 Allowable Shoulder/Lane/Roadway Closures and Traffic Stage Changes

Provide GDOT and appropriate Customer Groups a minimum of two weeks advance notice in writing for lane/shoulder closures and/or traffic stage changes planned to be in effect longer than twenty-four hours. Provide a minimum of 24 hours advance notice for lane closures that are planned to be in effect less than 24 hours, using all appropriate tools as needed. Coordinate the closure restrictions with GDOT on all lane/shoulder closures (or an event that results in lane closures) into GDOT’s ITS web-based information tool.

Coordinate closures with adjacent projects to ensure the safe and convenient passage of the traveling public. During construction of the Project, GDOT will facilitate coordination with all local entities for traffic control.

18.3.2.1.3 Lane and Shoulder Closure During Design-Build Period

1. I-85 and ramps between SR 53 to SR 11/US 129 (applies when three (3) or more lanes are open to traffic):
   
   A. Single Lane Closure (closure of the Express lane or an auxiliary lane is considered a single lane closure)
      
      i. Single lane closures are allowed daily between the hours of 9:00 pm to 5:00 am, Sunday through Thursday.
ii. Single lane closures are allowed between the hours of 9:00 pm Friday to 7:00 am Saturday.

iii. Single lane closures are allowed between the hours of 9:00 pm Saturday to 9:00 am Sunday.

B. Double Lane Closures

i. Double lane closures are allowed daily between the hours of 10:00 pm to 5:00 am, Sunday through Thursday.

ii. Double lane closures are allowed between the hours of 10:00 pm Friday to 6:00 am Saturday.

iii. Double lane closures are allowed between the hours of 10:00 pm Saturday to 7:00 am Sunday.

2. I-85 and ramps between SR 53 to SR 11/US 129 (Current configuration of two (2) lanes):

A. Single Lane Closure

i. Single lane closures are allowed daily between the hours of 9:00 pm to 5:00 am, Sunday through Thursday.

ii. Single lane closures are allowed between the hours of 9:00 pm Friday to 7:00 am Saturday.

iii. Single lane closures are allowed between the hours of 9:00 pm Saturday to 9:00 am Sunday.

B. Double Lane Closures are not allowed at any time.

3. Overpass Roadways:

A. Single Lane Closure

i. Single lane closures are allowed daily between the hours of 9:00 pm to 5:00 am, Sunday through Thursday.

ii. Single lane closures are allowed between the hours of 9:00 pm Friday to 7:00 am Saturday.

iii. Single lane closures are allowed between the hours of 9:00 pm Saturday to 9:00 am Sunday.

B. Detours

Observe the following project specific restrictions:

i. The DB Team will be allowed to close an overpass roadway for one hundred and eighty (180) days maximum per overpass site.

4. Traffic Pacing:

Traffic pacing will be allowed between the hours of 11 pm to 4 am daily in accordance with GDOT Special Provision 150. Daytime pacing will be allowed for
activities like blasting on a case by case basis. A minimum seven (7) day notice will be required for all requested daytime pacing.

5. Long Term Shoulder Closure:

Long term shoulder closures outside of bridge staging areas will be allowed on one shoulder with the Department’s approval in areas where there is an inside and outside shoulder. The shoulder opposite of the closed shoulder shall have a minimum usable width of eight (8) feet in accordance with AASHTO A Policy on Geometric Design of Highways and Streets. The full width of the usable shoulder does not require paving. Shoulder closure will be allowed for a maximum of one hundred and eighty (180) days and a maximum distance of two (2) miles. There should be at least one (1) mile between long term shoulder closures. Long term shoulder closures within the bridge staging areas must be detailed in the bridge staging plans and approved by GDOT.

Full Roadway Closure

The DB Team shall not install a complete closure of I-85 in either direction.

Do not close any full roadway (all lanes and shoulders) unless the closure is accepted by GDOT and Governmental Entities having jurisdiction of roadways affected by the closure.

GDOT has the right to lengthen, shorten, or otherwise modify the foregoing restrictions as actual traffic conditions may warrant. Limit any detour route for these full roadway closures to usage of the on- and off-ramps at the mainline interchange locations. Utilize workzone law enforcement for all detours.

Submit a Traffic Control Plan for any complete roadway closure for acceptance by GDOT and Governmental Entities having jurisdiction of roadways affected by the closure. Consider availability of frontage roads, ramp locations and detour distances in the plan.

Holiday Restrictions

No Work that restricts or interferes with traffic will be allowed during the periods specified in the following holiday schedule. GDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual or projected traffic conditions may warrant.

<table>
<thead>
<tr>
<th>Table 18-1: Holiday and Event Restrictions Schedule</th>
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<tbody>
<tr>
<td>Restriction Begins</td>
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<tr>
<td>-------------------</td>
</tr>
<tr>
<td>1. Easter (Thursday through Monday)</td>
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<tr>
<td>2. Memorial Day Weekend (Friday through Monday)</td>
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<tr>
<td>3. Independence Day</td>
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<tr>
<td>4. Labor Day Weekend (Friday through Monday)</td>
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<tr>
<td>5. Thanksgiving Holiday (Wednesday through Monday)</td>
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<tr>
<td>6. Christmas/New Year Holiday</td>
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</tbody>
</table>
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<table>
<thead>
<tr>
<th>Restriction Begins</th>
<th>Restriction Ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Georgia Tax Free Weekend/Sales Tax Holiday (typically Saturday and Sunday, late July and late September)</td>
<td>Friday at 6:00 am</td>
</tr>
<tr>
<td>8. Spring Break (traditionally the 2nd or 3rd week of March, but may vary) (Friday before, Saturday through Saturday, Sunday, Monday)</td>
<td>Friday at 6:00 am</td>
</tr>
</tbody>
</table>

**18.4 Construction Requirements**

Ensure traffic control is in accordance with GDOT accepted TMP and applicable provisions of the MUTCD and GDOT Special Provision Section 150, Traffic Control.

**18.4.1 DB Team Responsibility**

If at any time GDOT determines the DB Team’s traffic control operations do not meet the intent of the TMP, if applicable, or any specific traffic control plan, immediately revise or discontinue such operations to correct the deficient conditions.

Utilize workzone law enforcement equipped with a marked patrol vehicle and blue flashing lights to enforce traffic laws in construction workzones and administer this service. Deploy workzone law enforcement during lane closures, traffic pacing, and at all other times necessary for the safety of everyone within the Project limits. Coordinate and schedule the utilization of the workzone law enforcement.

Provide a daily work record compiled on a form provided by GDOT, signed by the workzone law enforcement, and signed by the WTCS attesting that the workzone law enforcement was utilized during the time recorded. No separate payment will be made for workzone law enforcement. Coordinate, schedule, and administer workzone law enforcement.

Ensure a smooth asphalt surface layer is placed on all milled surfaces within 48 hours after milling.

Payment for workzone law enforcement to be included in Construction Complete.

**18.4.2 Access**

Maintain existing bicycle and pedestrian access and mobility across all cross streets. Maintain access to existing transit stop locations during construction or provide reasonable alternative locations if applicable.

**18.4.3 Detours**

Maintain all detours. Provide a pavement transition, required in accordance with AASHTO’s Roadside Design Guide, GDOT guidelines, and the MUTCD, based on the roadway design speed of the section, at all detour interfaces.
Notify GDOT District/Area Office, all local county representatives, first responders, and school systems 30 days prior to implementing any detours.

### 18.5 Deliverables

As indicated in this Section 18 and in Section 3 (Design and Submittals).
19 MAINTENANCE DURING THE DESIGN-BUILD PERIOD

19.1 General
Assume full responsibility for maintaining the Project from NTP 3 through the remainder of the Design-Build Period in a manner that provides a safe and reliable transportation system.

19.2 Administrative Requirements

19.2.1 Standards
Provide activities in this section in accordance with GDOT Standard Specifications 104.05, 105.14, 105.15, Attachment 3-1 (Manuals), Government Approvals, and other provisions of the DB Documents.

19.3 Design Requirements

19.3.1 GDOT Obligation to Repair
GDOT or the appropriate local Governmental Entity will, between the effective date and NTP 3, reasonably perform the type of routine maintenance of each Element Category of the existing improvement that normally occurs in GDOT’s highway maintenance and repair program. Neither GDOT nor the appropriate local Governmental Entity is obligated to extend the residual life of any Element through reconstruction, rehabilitation, restoration, renewal, or replacement.

19.3.2 Joint Project Inspection
Conduct a Joint Project Inspection of the Project area within the Construction Maintenance Limits and obtain GDOT approval no later than 150 days after NTP 1. Perform the physical in-field Joint Project Inspection with a GDOT-authorized representative and/or GDOT in attendance. The purpose of the Joint Project Inspection is to create a physical baseline of the existing real estate and permanent fixtures and assets of GDOT prior to the start of construction. The area encompasses the entire Project area including areas containing required elements outside of the limits of the Project.

Clean all impacted conveyances of the existing drainage system sufficiently enough to allow for the proper detailed inspection of the system during the joint inspection within the Maintenance Management Plan and as required in this Section 19. Impacted conveyances of the existing drainage system shall be in conformance with Section 12.3 (Design Requirements).

Include the following in the Joint Project Inspection submittal report:

1. Preliminary Plan or Construction Maintenance Limits plan providing marked-up notes of deficiencies and location reference for cross-referencing any photographs or additional information denoting the existing condition of the infrastructure within the proposed Construction Maintenance Limits plan area.
2. Pre-construction digital photographs and high-resolution digital video of the Project Area including all existing facilities, structures, and environmentally sensitive areas that can readily depict the exact conditions of the existing Elements of the Work. Provide a
sample report of a section of the Project to determine the level of expected accuracy and increments of the photo documentation.

3. Intermittent photographs along the pavement and shoulders to clearly depict the existing condition of the pavement and shoulders that will be utilized during construction. Maintain the existing pavement and shoulders to a condition equal to or better than existing conditions at all times during the Design-Build Period.

4. Pre-construction digital photographs and high-resolution digital video of existing bench marks, temporary bench marks, existing utilities, and trees and plants to remain.

5. Video recording storm sewers and drainage systems and structures prior to the beginning of construction within the Construction Maintenance Limits or to the nearest structure outside the Construction Maintenance Limits, whichever is greater.

19.3.3 Maintenance Management Plan

Provide a Maintenance Management Plan that provides the DB Team’s Construction Maintenance Limits, outlines the frequency of inspection and repair and/or maintenance of those items under the DB Team’s responsibility. Include in the plan at a minimum the following:

1. Drawing or set of drawings that highlight the exact area of the proposed construction and maintenance responsibilities within the ROW, as well as the limits of any Additional Properties to be acquired for the Project

2. Pavement maintenance, including pothole patching, concrete patching, striping, etc.

3. Existing ITS system and Drainage System continuity

4. Landscaping repair

5. Utility Adjustments

6. Existing lighting system

7. Pavement inspection and repair during construction

8. Debris removal on the traveled way during construction

9. Guardrail inspection and safety protections in place where guardrail has been damaged within 48 hours, and repair of damage within seven days

10. Temporary striping restriping at no longer than 60-day intervals, or more frequently if required

Use this plan as the boundary for construction Work and as the exact limits to maintain any element required to construct the Project beginning at NTP 3 and through Final Acceptance. Perform all maintenance activities within the limits in accordance with the GDOT Standard Specifications, Construction of Transportation Systems.

Notwithstanding GDOT’s approval of the Maintenance Management Plan, the DB Team shall be responsible for any and all maintenance for any area(s) encroached on by the DB Team during the performance of the Construction Work.
Provide the final Maintenance Management Plan no later than 150 days after NTP 1. If the Project is broken into separate construction phases, provide and obtain approval of the final Maintenance Management Plan prior to the start of construction of that phase. Ensure the Plan shows hash marks or a method to clearly depict the area of the Construction Maintenance Limits. Depict in the Maintenance Management Plan, and obtain prior GDOT approval for, all proposed staging and lay-down areas.

Perform all maintenance for any area(s) encroached on by the performance of the construction Work, notwithstanding GDOT’s approval of the Construction Maintenance Limits. See Section 2 (Project Management) for additional requirements.

Maintain pavement markings including striping.

Maintenance constitutes continuous and effective work prosecuted day by day or at the direction of GDOT.

Restore the Existing ROW within the Construction Maintenance Limits to a condition equal to or better than existing conditions by Substantial Completion.

Maintain and repair any element affected by use of part of the facility outside of the specified maintenance limits by any means, such as lane/shoulder closures, staging, or any other activity as required above. Revise the Construction Maintenance Limits to incorporate the new maintenance limits.

19.4 Deliverables

As indicated in this Section 19 and in Section 3 (Design and Submittals).
20  RESERVED

No requirements.
21 RESERVED

No requirements.
22 NOISE BARRIERS

22.1 General
Design and construct the noise barriers to achieve the decibel reduction requirements in the Environmental Documents, as further identified in Table 22-1 (Noise Barrier Requirements) below. A final decision on the installation of noise barriers is made by GDOT upon completion of additional detailed noise abatement analysis based on the Final Plans, applicable State policies, federal guidelines, and public outreach to property owners and dwellers. Coordination with impacted property owners and dwellers who will benefit from a possible noise barrier must be done prior to the final decision on the installation of the noise barriers. At its discretion GDOT will determine the timing of the noise vote based upon preliminary design and constructability provided by the DB Team. The property owners and dwellers must vote on the noise barrier as per GDOT Noise Policy. If coordination with property owners and dwellers results in a vote that a noise barrier or portion of a noise barrier is not to be installed, then the decrease resulting from the noise barrier or a portion of the noise barrier not being built will be considered a GDOT Noise Barrier Change and the cost savings will accrue to the Department as a reduction from the total Contract Sum on a cost per square foot basis as established in Table 22-1.

Implement the noise barriers required in the final noise abatement analysis in the Environmental Documents. General locations of noise barriers have been identified, but these locations and general noise barrier design will be reevaluated as design progresses. Where feasible, noise barriers will be constructed as early as possible in the construction phasing to shield adjacent properties from construction-related noise impacts. Where feasible, existing noise barriers will remain in place unless written justification for removal by required construction activities or other identified safety concerns is approved by GDOT.

Comply with Section 15 (Landscape and Hardscape Enhancements) for noise barriers color scheme and aesthetics.

Table 22-1: Noise Barrier Requirements

<table>
<thead>
<tr>
<th>Barrier No.</th>
<th>General Location</th>
<th>Length (ft.)</th>
<th>Height (ft.)</th>
<th>Area (ft.²)</th>
<th>Benefitted Receptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>North of SR 53, west side of I-85</td>
<td>6,385</td>
<td>24-30</td>
<td>187,954</td>
<td>#138</td>
</tr>
<tr>
<td>9</td>
<td>north of SR 60, west of I-85, and east of McNeal Road, at the end of Margie Court and Lamar Lane</td>
<td>1,150</td>
<td>8-18</td>
<td>17,599</td>
<td>#8</td>
</tr>
</tbody>
</table>

22.2 Administrative Requirements

22.2.1 Standards
Provide activities in this Section in accordance with Attachment 3-1 (Manuals), Government Approvals, and other provisions of the DB Documents.
22.3 Design Requirements

22.3.1 Environmental

GDOT has prepared a Noise Impact Assessment (Attachment 22-1) as part of the NEPA Decision that includes conceptual noise barrier locations and heights. Changes to the design of the Project may affect the noise abatement level provided by these conceptual noise barriers.

Construct the conceptual noise barrier locations (Attachment 22-2) at length and to the top elevation, unless otherwise described in the GDOT Noise Barrier Change or DB Team Noise Barrier Change directive memorandum.

Prepare and submit a Noise Impact Assessment Addendum if the highway horizontal alignment changes by more than 10 feet, and/or the highway vertical profile by more than two feet.

Submit any changes to the TNM, as provided during the procurement process, to GDOT for approval prior to using for the development of the Noise Impact Assessment Addendum.

Remodel all noise barriers between any two overpasses or underpasses between which the highway configuration alignment adjustment has occurred by more than 10 feet for a horizontal and/or 2 feet for a vertical alignment change.

Include Final Noise Barrier Design with TNM input (elevation surfaces and design files) with the Noise Impact Assessment Addendum Submittal to GDOT.

Use Traffic Noise Model (TNM) version 2.5 noise analysis computer program for the preparation of the Noise Impact Assessment Addendum.

Submit in writing any proposed changes to the TNM, as provided during the procurement process, to GDOT for approval prior to using the model for the development of the Noise Impact Assessment Addendum.

Comply with the current GDOT Noise Policy and confirm that the conceptual noise barrier location achieves the GDOT Noise Policy decibel targets for the “Build Alternative with Barrier" at each benefited receptor as described in the Noise Impact Assessment (Attachment 22-1). If a design change results in each benefited receptor achieving the GDOT Noise Policy decibel target without the need for the construction of a noise barrier, such noise analysis shall be provided to GDOT for approval with a report by the DB Team as to why the noise barrier should be eliminated or reduced in size. Upon receipt of the analysis and report, GDOT shall determine if a noise barrier shall be eliminated or reduced in size and such decision shall be at GDOT's sole discretion.

If the GDOT Noise Policy goals are not achieved, the DB Team shall provide recommendations in the information required by GDOT for the Noise Impact Assessment Addendum to achieve the GDOT Noise Policy goals, including additional or revised noise barriers as necessary. Any difference in the square footage of a noise barrier from the square footage provided in Table 22-1 (Noise Barriers Requirements) will be considered a DB Team Noise Barrier Change.
A GDOT Noise Barrier Change is the elimination of a noise barrier or a portion of a noise barrier as a result of a vote not to install by property owner and dwellers. All savings from a GDOT Noise Barrier Change shall accrue to GDOT and the Contract Sum will be reduced in accordance with the cost per square footage reduction from Table 22-1 (Noise Barriers Requirements) and the Schedule of Values.

A DB Team Noise Barrier Change is the elimination of a noise barrier or portion of a noise barrier as a result of design changes that achieves the GDOT Noise Policy decibel targets, GDOT Design Goals and has been approved by GDOT. If the design change results in a reduction, then the savings from a DB Team Noise Barrier Change shall be split 50/50 between GDOT and the DB Team based on the cost per square footage reduction from Table 22-1 (Noise Barriers Requirements) and the Schedule of Values. If the design change results in an increase, then the cost increase from a DB Team Noise Barrier Change shall be the responsibility of the DB Team.

If proposed changes to the highway configuration, profile or other design elements (e.g. retaining walls) render a noise barrier, as described in the Noise Impact Assessment (Attachment 22-1), impracticable to build, include alternative solution to achieve the GDOT Noise Policy decibel reductions stated in the Noise Impact Assessment Report Addendum. Approval of proposed alternative methods by GDOT is required per GDOT Noise Policy and based on public expectations and outreach.

Provide a work plan to identify when noise barriers are to be installed, and stage this work such that noise barrier construction can be completed as soon as practical. The DB Team shall provide alternate means to maintain existing noise reductions until noise barriers are completed.

Provide noise barriers that are reflective type unless otherwise required by GDOT.

Where practical, do not remove existing noise barrier until new noise barrier is constructed. Where existing noise barriers are proposed to be removed prior to construction of new noise barriers, alternative noise abatement measures shall be provided subject to GDOT review and acceptance prior to construction.

Install the noise barriers listed in Table 22-1 (Noise Barriers Requirements). Noise barriers shall meet or exceed the decibel reduction for the listed applicable receptors in the Environmental Approvals.

Stationing, heights, and offsets shown in Table 22-1 (Noise Barriers Requirements) are based off the Costing Plans and may change based on the DB Team’s design alignments. Any noise barrier locations changes due to the DB Team design alignment changes must meet GDOT Noise Policy. The DB Team shall provide written technical justification for any noise barriers location adjustments. These proposed noise barrier location adjustments are subject to approval by GDOT. Any approved proposed changes will be analyzed by GDOT to determine if they meet GDOT Noise Policy. Final noise wall heights/elevations will be set by the GDOT performed noise abatement analysis in compliance with GDOT Construction Details.

22.3.2 Structural
• 140 mph (Coastal 2): Bryan, Camden, Chatham, Effingham, Glynn, Liberty, McIntosh

• 130 mph (Coastal 1): Brantley, Bulloch, Charlton, Evans, Long, Screven, Tattnall, Wayne

• 120 mph (Piedmont 2): Appling, Bacon, Brooks, Burke, Candler, Clay, Clinch, Decatur, Early, Echols, Emanuel, Grady, Jeff Davis, Jenkins, Lowndes, Miller, Pierce, Seminole, Thomas, Toombs, Ware

• 115 mph (Piedmont 1): For all counties not listed above

The wind speeds and associated counties listed above result in the following minimum design wind pressures:

<table>
<thead>
<tr>
<th>Regions</th>
<th>Strength III</th>
<th>Service I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ground mounted</td>
<td>Structure mounted</td>
</tr>
<tr>
<td>Piedmont 1</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>Piedmont 2</td>
<td>38</td>
<td>44</td>
</tr>
<tr>
<td>Coastal 1</td>
<td>44</td>
<td>52</td>
</tr>
<tr>
<td>Coastal 2</td>
<td>59</td>
<td>70</td>
</tr>
</tbody>
</table>

Current Construction Detail N (Attachment 22-4) series are in compliance with Piedmont 1 criteria above.

Embed all bottom panels of free-standing noise barriers a minimum of six inches below finished ground line.

In shop drawings, provide transition details acceptable to GDOT between ground-mounted and structure-mounted noise barriers showing direct connection or overlapping barriers. Provide minimum overlap length of four times the offset between noise barriers. The offset shall be a minimum of ten feet.

Include access doors in noise barriers at regular intervals for maintenance. Access doors shall be located in noise barrier walls that are greater than 1,500 feet in length. An access door shall be located at the mid-point of the total wall length for walls that have a total length between 1,500 feet and 2,000 feet. Access doors shall be spaced approximately every 1,000 feet for noise barrier walls greater than 2,000 feet in length. Access doors shall not be located on noise barrier walls mounted to bridges, retaining walls, or where a steep or vertical drop-off of the final
Provide a maximum height of 30 feet from groundline to top of wall.

All noise barrier panels shall be precast concrete panels with finish as described in Section 15 (Landscape and Hardscape Enhancements). Noise barriers shall meet the requirements of Attachment 22-3 (Special Provision 624 – Noise Barriers). Interlocking Steel Panels (Type B) can be used on bridge barriers and on retaining walls. All materials used to construct the noise barriers shall conform to the requirements of the GDOT Qualified Products List (QPL).

Design noise barriers mounted to bridge barriers to resist all loading that it will be subjected to including impact, wind, and ice loading. The bridge deck overhang on new and existing decks shall have adequate capacity to accommodate these loads.

The maximum height of noise barriers attached to bridges is limited to 12 feet above the bridge deck.

The maximum height of noise barriers attached to MSE retaining walls is 18 feet above the coping. Noise barriers exceeding these limitations require special design and details for free-standing barriers and are subject to the approval of GDOT. Foundations for free-standing barriers shall be coordinated with sub-surface structures such as pipes and culverts, and foundation spacings shall be detailed to avoid conflict.

Weight of material for noise barrier panels installed on bridges shall be designed to be a maximum limit of seven pounds per-square-foot of face of wall and shall meet the sound and aesthetic requirements for the Project.

Provide a final structural design that meets the abatement requirements of the noise barriers as provided in the approved environmental document.

Design noise barrier wall systems in accordance with Special Provision 624 (Attachment 22-3) and Construction Detail N (Attachment 22-4) series except for the following:

For ground-mounted and structure-mounted noise barrier wall systems, offset distance from MASH compliant concrete side barriers shall be a minimum of four feet. The offset is measured from the top of barrier at the traffic facing side to the front face of noise barrier panel or post (whichever is closer to the barrier).

Design noise barrier wall systems not meeting the minimum four-foot offset stated above to withstand wind pressures shown below and MASH collision load for the crash test level of the barrier placed in front of it.

Application of the collision load onto the noise barrier wall shall be in accordance with AASHTO LRFD Chapter 15.

Protect noise barrier installations adjacent to shoulders with Type 2 or Type 6 concrete side barriers. The use of guardrail in front of noise barrier walls is not allowed.

Design noise barrier panels in accordance with AASHTO LRFD 7th Edition and to the following wind speeds using a 700 Mean Recurrence Interval (MRI) for the listed counties:
grade is occurring. Coordinate locations for access to maintain noise barriers, including breaks
and offsets between barriers and maintenance doors.

Ensure positive drainage for ground-mounted, barrier-mounted, and free-standing barrier
installations.

Coordinate placement of noise barriers with ancillary structures such as lighting luminaires,
strain poles, overhead sign supports, and tolling cabinets. Ensure ancillary structures are
accessible from adjacent travel way and that access is not prohibited by noise barrier. Locate
access doors in noise barrier walls within 200 feet of ancillary structures.

Align noise walls and grade to provide for maintenance vehicle accessibility in front of and
behind walls.

22.4 Construction Requirements

No additional requirements.

22.5 Deliverables

As indicated in Section 3 (Design and Submittals).
23 RESERVED

No requirements.
Manuals

All Work shall conform with all applicable Manuals and Guidelines developed for and including AASHTO, FHWA, GDOT, and additional requirements stated in this document and reasonably inferred therefrom. It is the Design-Build Team’s responsibility to verify order of the precedence of any State or Federal manual requirement where any potential conflict may exist. The Design-Build Team shall coordinate with the appropriate State and/or Federal agency to confirm the policy and regulations to avoid any conflict of the following manuals prior to design and/or construction. Following is a list of manuals and guidelines that shall be used in the performance of the Work provided that the Work shall not be governed solely by such manuals and guidelines listed herein, and provided further that it is the Design-Build Team’s responsibility to locate and utilize the most current edition in effect at the date identified in Volume 1, Article 7.2.4, including updates, of all such referenced materials for the Work required.

1. AASHTO – A Policy on Geometric Design of Highways and Streets  
   https://store.transportation.org/Item/CollectionDetail?ID=180
2. AASHTO – Guide for High-Occupancy Vehicle Facilities  
   https://store.transportation.org/Item/CollectionDetail?ID=30
   https://store.transportation.org/Item/CollectionDetail?ID=126
4. AASHTO – LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals  
   https://store.transportation.org/item/collectiondetail/144
5. AASHTO – Roadside Design Guide  
   https://store.transportation.org/Item/CollectionDetail?ID=105
   https://store.transportation.org/Item/PublicationDetail?ID=4133
7. AASHTO – Standard Specifications for Highway Bridges  
   https://store.transportation.org/Item/CollectionDetail?ID=15
8. AASHTO – LRFD Bridge Design Specifications  
   https://store.transportation.org/Item/CollectionDetail?ID=152
9. AASHTO – Manual for Bridge Evaluation  
   https://store.transportation.org/Item/CollectionDetail?ID=179
10. AASHTO / Transportation Research Board (TRB) – Guide Specification for Structural Design of Sound Barriers  
11. AASHTO / AWS – D1.5M/D1.5 Bridge Welding Code  
    i. https://store.transportation.org/Item/PublicationDetail?ID=3913  
    ii. https://store.transportation.org/Item/PublicationDetail?ID=4131
12. AASHTO – Manual for Assessing Safety Hardware (MASH)  
https://store.transportation.org/Item/PublicationDetail?ID=2707

13. AISC Steel Construction Manual, referred to as “AISC Specifications”  
https://www.aisc.org/publications/steel-construction-manual-resources/


15. America Disabilities Act Standards for Accessible Design  
https://www.ada.gov/2010ADAs/standards_index.htm

16. AWS – D1.1/D1.1M ANSI Structural Welding Code – Steel  

17. FHWA – Manual on Uniform Traffic Control Devices (MUTCD)  
http://mutcd.fhwa.dot.gov/

18. FHWA – Roadway Construction Noise Model (RCNM) and Guideline Handbook  
https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm2/

19. Federal Railroad Administration Regulations  
http://www.fra.dot.gov

20. GDOT – Signing and Marking Design Guidelines  

http://www.dot.ga.gov/PartnerSmart/utilities/Documents/2016_UAM.pdf

22. GDOT – Guidelines for Geotechnical Studies (listed per section under the Design Policy and Guides, Category: Geotechnical)  

23. GDOT – Sampling, Testing and Inspection (STI) Quick Guide and Documents  
http://www.dot.ga.gov/PS/Business/Source/STI

24. GDOT – Qualified Products List (QPL)  
http://www.dot.ga.gov/PartnerSmart/Materials/Pages/QPL.aspx

25. GDOT – Pavement Design Manual  

26. GDOT – Pavement Type Selection Manual  
http://www.dot.ga.gov/PartnerSmart/DesignManuals/Pavement/Pavement%20Type%20Selection%20Manual.pdf

27. GDOT – Drainage Design for Highways, listed as “Drainage Manual” on website  

28. GDOT – Automated Survey Field Manual  

29. GDOT – Regulations for Driveway and Encroachment Control  
30. GDOT – Electronic Data Guidelines
   http://www.dot.ga.gov/PS/DesignManuals

31. GDOT – Plan Development Process

32. GDOT – Plan Presentation Guide
   http://www.dot.ga.gov/PS/DesignManuals

33. GDOT – Preliminary Field Plan Review Checklist
   http://www.dot.ga.gov/PS/DesignManuals/DesignResources

34. GDOT – Final Field Plan Review Checklist
   http://www.dot.ga.gov/PS/DesignManuals/DesignResources

35. GDOT – Design Policy Manual

36. GDOT – ITS Design Manual

37. Georgia Environmental Protection Division (EPD) – NPDES General Permit Guidance

38. GDOT – MS4 Special Design Post-Construction Details

39. GDOT – Bridge and Structures Design Manual

40. GDOT – Environmental Procedures Manual

41. GDOT – Standard Specifications, Construction of Transportation Systems
   http://www.dot.ga.gov/PartnerSmart/Business/Source/Pages/Specifications.aspx

42. GDOT – Special Provisions and Supplemental Specifications
   http://www.dot.ga.gov/PartnerSmart/Business/Source/Pages/SpecialProvisions.aspx

43. GDOT – Construction Standards and Details
   http://mydocs.dot.ga.gov/info/gdotpubs/ConstructionStandardsAndDetails/Forms/AllItems.aspx

44. GDOT – Right of Way Manual
45. GDOT – Acquisition Guide for Local Public Agencies

46. GDOT – Statewide MS4 Permit

47. GDOT – Design of Post-Construction BMPs

48. Georgia Soil and Water Conservation Commission (GASWCC) – Manual for Erosion and Sediment Control in Georgia
   https://gaswcc.georgia.gov/technical-guidance

49. GDOT – Facility Stormwater Pollution Prevention Training

50. GDOT – Stormwater System Inspection and Maintenance Manual

51. AASHTO – Manual for Bridge Evaluation
    https://store.transportation.org/Item/CollectionDetail?ID=179

52. FHWA – Diverging Diamond Interchange Informational Guide

53. FHWA – Traffic Detector Handbook

54. FHWA – Mitigation Strategies for Design Exceptions

55. FHWA – Traffic Monitoring Guide
    https://www.fhwa.dot.gov/policyinformation/tmguide/

56. Occupational Safety and Health Administration (OSHA) – Regulations

57. Institute of Electronic and Electrical Engineers (IEEE) – National Electrical Safety Code (NESC), ANSI C2

58. U. S. Environmental Protection Agency (EPA) – Regulations
    http://www.epa.gov/lawsregs/

59. GDOT – Public Information Policy Manual
    http://www.dot.ga.gov/PartnerSmart/DesignManuals/Environmental/Public%20Involvement%20Plan/PublicInvolvementPlan.pdf

60. American Railway Engineering and Maintenance-of-Way Association (AREMA) – Publications
    https://www.arema.org/AREMA_MBRR/AREMASStore/Store_Main.aspx

61. GDOT – Work Zone Safety and Mobility Policy
62. CSX – Public Project Information for Construction and Improvement Projects That May Involve the Railroad

63. FHWA – Standards Highway Signs and Markings, from MUTCD

64. Atlanta Regional Commission (ARC) – Georgia Stormwater Management Manual, Volumes 1 & 2
http://www.georgiastormwater.com/
65. Georgia EPD – Coastal Stormwater Supplement to the Stormwater management Manual

66. GDOT – ITS Strategic Deployment Plan
http://www.dot.ga.gov/PartnerSmart/DesignManuals/TrafficOps/GeorgiaSDP.pdf

67. ITE / AASHTO – Traffic Management Data Dictionary (TMDD), Standards for Traffic
Management Center to Center Communications
https://www.ite.org/technical-resources/standards/tmdd/

68. AASHTO – A Policy on Design Standards Interstate System
https://store.transportation.org/Item/PublicationDetail?ID=2624

69. GDOT – Construction Manual and Form Documents
http://www.dot.ga.gov/PartnerSmart/Business/Source/Pages/ConstructionSpecs.aspx

70. GDOT – Pedestrian and Streetscape Guide

71. GDOT – Design-Build Manual

72. Georgia Traffic Incident Management Enhancement (TIME) Task Force – Traffic Incident
Management Guidelines

73. Transportation Research Board (TRB) – Highway Capacity Manual
http://www.trb.org/Main/Blurbs/175169.aspx

74. Other manuals, documents, procedures and standards as referenced in the DB Documents.
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 3-2

CONCRETE BARRIER SPECIAL PROVISIONS

SP 621 Concrete Barrier
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
SPECIAL PROVISION  
P.I. NO: 0013545  
COUNTY: Jackson  

Section 621—Concrete Barrier

Delete Subsection 621.2 and substitute the following:

621.2 Materials

Use materials that meet the requirements of the following Specifications:

<table>
<thead>
<tr>
<th>Material</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement Concrete, Class AA</td>
<td>500</td>
</tr>
<tr>
<td>Steel Bars for Concrete Reinforcement</td>
<td>853.2.01</td>
</tr>
<tr>
<td>Joint Fillers and Sealers</td>
<td>833</td>
</tr>
</tbody>
</table>

Ensure that barrier walls and parapets on bridges are Class “AA” concrete unless otherwise specified on the Plans.

621.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

Delete Subsection 621.3.05 A -- and substitute the following:

621.3.05 Construction

A. Formed or Slip Formed Barrier

   Ensure that the barriers are Class AA concrete as defined in Section 500 and are constructed according to Plan details.

   1. Place the concrete using conventional forms or an approved self-propelled extrusion machine. When using forms, give the barrier a Type III finish, and cured according to Section 500.

   1. Construct joints of the type and at the locations specified on the Plans.

      a. When emergencies interrupt placement, the Engineer will decide whether to allow a construction joint and will direct where and how to construct the joint.

      b. Joints may be sawed or formed. If the joint is sawed within 24 hours of placement to at least 3 in (75 mm) deep using a template, immediately remove the following material:

         • Material that may damage the adjacent concrete by blocking the sawed joint

         • Material that may prevent later operation or cleaning after the sawing operation is complete

      c. Saw the joints through the footing.

   2. The outside vertical face of the side barrier or parapet may be battered as directed by the Engineer. Radii, as approved by the Engineer, may be used at intersecting surfaces of the barrier.

   Make approved requested changes at no cost to the Department.
SPECIAL DETAILS – PARAPETS AND BARRIERS

- Special Detail Parapet Wall P1-P2-P3
- Special Detail Type 2S-2SA-2SB-2SC Side Barrier (4949B)
- Special Detail Type 3SA-3SB Median Barrier (4941B)
- Special Detail Type 6S-6SA-6SB-6SC Side Barrier (4949C)
- Special Detail Type 7CS-7TS-7WS Side Barrier (4949A)
- Special Detail Type S1-S2-S3 Median Barrier (4941A)
- Special Detail Median Barrier
DETAIL OF CONTRACTION JOINT
8"
1'-2"
12"
12"
7"
4" REV IS IO N
#4 AT 6" O.C.
(TYPE 7-CS)
DATE
6" 8"
TRANSITION TO 7-CS
6" 6" MIN.
REV IS IO N
PROJECT NUMBER
" + " - " + " END OF BARRIER
PAVEMENT
2' - 7" BEAM HT.
LONG IT U N A L  B A R RIES S PAC IN G
POSTS AND OFFSET BLOCKS DEPICTED FOR GUARDRAIL DESIGN GUIDE, CURRENT EDITION.
GUARDRAIL:
SPECIAL END SHOE, " + " GALV. PLATE
FOR DETAILS OF GUARDRAIL,
1'-5"
1"-5"
VARIES
6'-3" 1'-8"
6" MIN.
(TYPE 7-WS)
(SPECIFIED)
ILLUSTRATED
TYPE WALL (GRAVITY BASE
1'-1" 2'-8"
10"
TYPE BOND BREAKER
OR OTHER APPROVED EXPANSION MATERIAL
BARRIER HT.
PAVEMENT TOP OF BARRIER TOP HT.
THE WALL INSTEAD OF WEEP HOLES.)
(AT NO ADDITIONAL COST TO THE DEPARTMENT, THE WEEP HOLES FOR TYPE 7-WS BARRIER
NOTE:
REINFORCING FOR TYPE 7-TS
5 SPACES AT 1'-6" C. TO C.
PLAN VIEW
2"
DOUBLE THICKNESS (ONE RAIL "T" BEAM TO "W" BEAM GUARDRAIL
ROADWAY
8"
1'-0"
@ 6" O.C. MAX.
#4 VERTICAL BARS
CAST IN BARRIER
FIVE 1" DIA. HOLES
#7 BARS HORIZONTAL AND VERTICAL
NUTS & WASHERS (GALV.)
FIVE 3" X " + " X 3" GALV. PLATES
AND BETWEEN COLUMNS.
NO VOIDS ALLOWED BETWEEN BARRIER
SECTION B-B (FOR TYPE 7-CS)
1"
CHEESE" ROUNDING
3"-6"
7"
2" CL.
10"
MIN.
8"
" + " - " + " EN L
ter FACE AND SIDES, TYP.
BARRIER TYPE LOCATIONS
AT BRIDGE COLUMNS
TRANSITION TO 7-CS
7-CS AT BRIDGE COLUMN
7-CS TRANSITION TO 7-WS
7-WS LEFT SAFETY WALL
SUPPORTS 
CONCRETE SIDE BARRIER
SHOULD TIE INTO ADJACENT CONCRETE SLOPE PAVING SHOULDER, PAVING BACK
SLOPE SECTION OR GUTTER, AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
NOTE #9
SEE GEN.
SPECIAL DETAIL 4945
Support Footing Shall Be Designed By Contractor And Accepted By The Engineer Prior To Use.
BE USED AT THE END OF THE TYPE 7-WS. SEE STANDARD 4949C.
10. TYPE 7-TS AND ADDITIONAL GUARDRAIL POSTS NOT REQUIRED AT
ACCORDANCE WITH THE 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
13'-6" OF TYPE 6-S SIDE BARRIER, DETAILED FOR TRANSITION, SHOULD
BE USED IF DETAILS ARE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO USE.
ALLOWED BETWEEN BARRIERS AND WALL GROUT WILL FILL ALL HOLES.
NOTE
KEEP HOLES FOR TYPE 7-CS BARRIER
SHOULD ALIGN WITH KEEP HOLES OF WALLS.
AT NO ADDITIONAL COST TO THE DEPARTMENT, THE CONSTRUCTION JOINT MAY USE AN UNDER DRAIN SYSTEM BEHIND
THE WALL INSTEAD OF KEEP HOLES.
REINFORCING TYPE 7-CS AS SPECIFIED.
REINFORCING TYPE 7-TS AS SPECIFIED.
REINFORCING TYPE 7-WS AS SPECIFIED.
SPECIAL DETAIL
TYPES 7-CS,7-TS, AND 7-WS
DLO EMENT MATERIAL OR OTHER APPROVED TYPE 7-BOND SYSTEM
DETAIL OF EXPANSION JOINT
DETAIL OF CONTRACTION JOINT
SHOULDER
HIGHWAY
SPECIAL DETAIL
STATE DESIGN POLICY ENGINEER
STATE OF GEORGIA
SPECIAL DETAIL
CONCRETE SIDE BARRIER TYPES 7-CS,7-TS, AND 7-WS
NO SCALE DECEMBER 2017 NUMBER 4949A
DEPARTMENT OF TRANSPORTATION
SPECIAL DETAIL
CONCRETE SIDE BARRIER TYPES 7-CS,7-TS, AND 7-WS
NO SCALE DECEMBER 2017 NUMBER 4949A
DEPARTMENT OF TRANSPORTATION
SPECIAL DETAIL
CONCRETE SIDE BARRIER TYPES 7-CS,7-TS, AND 7-WS
NO SCALE DECEMBER 2017 NUMBER 4949A
MEDIAN BARRIER DETAIL

SCALE: $\frac{3}{4}'' = 1'-0''$

8-4XX IN BARRIER, SEE DECK PLAN FOR LETTER DESIGNATION

503 AT EACH 502

2'' CL. 2 SIDES

3'' CL.

502 AT 12''
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 4-1

ENVIRONMENTAL COMMITMENTS TABLE
**ENVIRONMENTAL COMMITMENTS TABLE**

P.I.#s: 110610 & 0013545, Counties: Gwinnett, Barrow, Jackson

Date Updated: 2/27/2020 | Stage: Reevaluation
Transmittal Date for Plans Reviewed by OES (if applicable): TBD

Review
If no commitments, NEPA may approve for al.

The GDOT project manager (PM) asserts that these commitments are feasible.
_GDOT PM:_ [Signature/Date: 2/27/2023]

The engineer of record (EOR) asserts that plans incorporate or will incorporate commitments if applicable.
_EOR_ [Kristen Kasmire, PE][Signature/Date: 02/27/2020]

| Air/Noise: MK | Arch: WP_3-9-2020 | Eco: AK_3-6-2020 | Hist: CC_3-2-2020 | NEPA: DB |

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**A. Resources to be Delineated on the Plans and/or Listed in the Environmental Resource Impact Table (ERIT)**

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>P.I.#(s)</th>
<th>Permitted Construction Activity</th>
<th>Refer to</th>
<th>Name and Date of Report or Transmittal</th>
<th>Correctly Shown?</th>
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*Represents striping within P.I. 110600 completed under P.I. 110610. Resources must be identified here due to overlap of those PI numbers.

Estimated Costs are for planning purpose only, in current dollars as of date updated.
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<th>P.I. #s: 110610-0013545, Counties: Gwinnett, Barrow, Jackson</th>
<th>Date Updated: 2/27/2020</th>
<th>Stage: Reevaluation</th>
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| A-30  | * IS 68e Buffer| * 110600 | " | " | " | " |
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| A-34  | * IS 74        | * 110600 | " | " | " | " |
| A-35  | * IS 74 Buffer | * 110600 | " | " | " | " |
| A-36  | * WL 75        | * 110600 | " | " | " | " |
| A-37  | * WL 76        | * 110600 | " | " | " | " |
| A-38  | * IS 76a       | * 110600 | " | " | " | " |
| A-39  | * IS 76a Buffer| * 110600 | " | " | " | " |
| A-40  | * PS 77        | * 110600 | " | " | " | " |
| A-41  | * PS 77 Buffer | * 110600 | " | " | " | " |
| A-42  | * IS 77a       | * 110600 | " | " | " | " |
| A-43  | * IS 77a Buffer| * 110600 | " | " | " | " |
| A-44  | * IS 78        | * 110600 | " | " | " | " |
| A-45  | * IS 78 Buffer | * 110600 | " | " | " | " |
| A-46  | * PS 79        | * 110600 | " | " | " | " |
| A-47  | * PS 79 Buffer | * 110600 | " | " | " | " |
| A-48  | * WL 81        | * 110600 | " | " | " | " |
| A-49  | * WL 82        | * 110600 | " | " | " | " |
| A-50  | * WL 83        | * 110600 | " | " | " | " |
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| A-54  | * PS 85 Buffer | * 110600 | " | " | " | " |
| A-55  | * IS 85a       | * 110600 | " | " | " | " |
| A-56  | * IS 85a Buffer| * 110600 | " | " | " | " |
| A-57  | * IS 85b       | * 110600 | " | " | " | " |
| A-58  | * IS 85b Buffer| * 110600 | " | " | " | " |
| A-59  | * IS 85c       | * 110600 | " | " | " | " |
| A-60  | * IS 85c Buffer| * 110600 | " | " | " | " |
| A-61  | * PS 85d       | * 110600 | " | " | " | " |
| A-62  | * PS 85d Buffer| * 110600 | " | " | " | " |
| A-63  | * PS 86        | * 110600 | " | " | " | " |
| A-64  | * PS 86 Buffer | * 110600 | " | " | " | " |
| A-65  | * WL 83a       | * 110600 | " | " | " | " |
| A-66  | * WL 88        | * 110600 | " | " | " | " |
| A-67  | * IS 89        | * 110600 | " | " | " | " |

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Estimated Costs are for planning purpose only, in current dollars as of date updated.
| A-68 | IS 89 Buffer | 110600 | " | " | " | " |
| A-69 | WL 90 | 110600 | " | " | " | " |
| A-70 | WL 82 | 110600 | " | " | " | " |
| A-71 | PS 93 | 110600 | " | " | " | " |
| A-72 | PS 93 Buffer | 110600 | " | " | " | " |
| A-73 | IS 93a | 110600 | " | " | " | " |
| A-74 | IS 93a Buffer | 110600 | " | " | " | " |
| A-75 | IS 95 | 110600 | " | " | " | " |
| A-76 | IS 95 Buffer | 110600 | " | " | " | " |
| A-77 | PS 96 | 110600 | " | " | " | " |
| A-78 | PS 95 Buffer | 110600 | " | " | " | " |
| A-79 | OW 97 | 110600 | " | " | " | " |
| A-80 | Open Water (OW) 97 Buffer | 110600 | " | " | " | " |
| A-81 | PS 98 | 110600 | " | " | " | " |
| A-82 | PS 98 Buffer | 110600 | " | " | " | " |
| A-83 | PS 99 | 110600 | " | " | " | " |
| A-84 | PS 99 Buffer | 110600 | " | " | " | " |
| A-85 | IS 99a | 110600 | " | " | " | " |
| A-86 | IS 99a Buffer | 110600 | " | " | " | " |
| A-87 | OW 100 | 110600 | " | " | " | " |
| A-88 | OW 100 Buffer | 110600 | " | " | " | " |
| A-89 | WL 100a | 110600 | " | " | " | " |
| A-90 | IS 100b | 110600 | " | " | " | " |
| A-91 | IS 100b Buffer | 110600 | " | " | " | " |
| A-92 | IS 101 | 110600 | " | " | " | " |
| A-93 | IS 101 Buffer | 110600 | " | " | " | " |
| A-94 | PS 102 | 110600 | " | " | " | " |
| A-95 | PS 102 Buffer | 110600 | " | " | " | " |
| A-96 | WL 103 | 110600 | " | " | " | " |
| A-97 | IS 105 | 110600 | " | " | " | " |
| A-98 | IS 105 Buffer | 110600 | " | " | " | " |
| A-99 | WL 105 | 110600 | " | " | " | " |
| A-100 | OW 107 | 110600 | " | " | " | " |
| A-101 | OW 107 Buffer | 110600 | " | " | " | " |
| A-102 | PS 108 | 110600 | " | " | " | " |
| A-103 | PS 108 Buffer | 110600 | " | " | " | " |
| A-104 | IS 109 | 110600 | " | " | " | " |
| A-105 | IS 109 Buffer | 110600 | " | " | " | " |
| A-106 | IS 1 | 110600 | No activity | - | - | - |

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<th>P.I.#s: 110610- &amp; 0013545, Counties: Gwinnett, Barrow, Jackson</th>
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Estimated Costs are for planning purpose only, in current dollars as of date updated.
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*Represents striping within PI 110600 completed under PI 110610. Resources must be identified here due to overlap of those PI numbers.

Estimated Costs are for planning purpose only, in current dollars as of date updated.
## ENVIRONMENTAL COMMITMENTS TABLE

**P.I.##s:** 110610- & 0013545, Counties: Gwinnett, Barrow, Jackson  
**Date Updated:** 2/27/2020 | **Stage:** Reevaluation  
**Transmittal Date for Plans Reviewed by OES (if applicable):** TBD

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*Represents striping within PI 110600 completed under PI 110610. Resources must be identified here due to overlap of those PI numbers.*

Estimated Costs are for planning purposes only, in current dollars as of date updated.
<table>
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<tr>
<th>P.I.#s: 110610- &amp; 0013545, Counties: Gwinnett, Barrow, Jackson</th>
<th>Date Updated: 2/27/2020</th>
<th>Stage: Reevaluation</th>
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<td>A-242 WL 82</td>
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A-243 PS 83 | 110610- | Temporary stream impacts as a result of de-watering for bridge demolition/bent removal are anticipated. 122 linear feet (0.16 acre) of temporary impacts from jetties (Primary Morphological Alteration) | E-6 |

A-244 PS 83 Buffer | 110610- | Exempt buffer impacts anticipated. 100-foot roadway drainage structure exemption. | |

A-245 PS 84 | 110610- | No activity | |
A-246 PS 84 Buffer | 110610- | 25-Foot Stream Buffer, Nc activity | |
A-247 WL 85 | 110610- | No activity | |
A-248 IS 86 | 110610- | No activity | |
A-249 IS 86 Buffer | 110610- | 25-Foot Stream Buffer, Nc activity | |
A-250 WL 87 | 110610- | No activity | |
A-251 EC 88 | 110610- | No activity | |
A-252 IS 89 | 110610- | No activity | |
A-253 IS 89 Buffer | 110610- | 25-Foot Stream Buffer, Nc activity | |
A-254 PS/IS 90 | 110610- | No activity | |
A-255 PS/IS 90 Buffer | 110610- | 25-Foot Stream Buffer, Nc activity | |

*Represents striping within PI 110600 completed under PI 110610. Resources must be identified here due to overlap of those PI numbers.

Estimated Costs are for planning purposes only, in current dollars as of date updated.
<table>
<thead>
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<th>P.I. #:</th>
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<td>IS 105</td>
<td>0313545</td>
<td>No activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-282</td>
<td>IS 105 Buffer</td>
<td>0313545</td>
<td>25-Foot Stream Buffer, No activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-283</td>
<td>IS 106</td>
<td>0313545</td>
<td>No activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-284</td>
<td>IS 106 Buffer</td>
<td>0313545</td>
<td>25-Foot Stream Buffer, No activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-285</td>
<td>WL 107</td>
<td>0313545</td>
<td>No activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-286</td>
<td>PS 108</td>
<td>0013545</td>
<td>No activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-287</td>
<td>PS 108 Buffer</td>
<td>0013545</td>
<td>25-Foot Stream Buffer, No activity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Represents striping within PI 110600 completed under PI 110610. Resources must be identified here due to overlap of those PI numbers. Estimated Costs are for planning purpose only, in current dollars as of date updated.
<table>
<thead>
<tr>
<th>P.I.#s: 110610- &amp; 0013545, Counties: Gwinnett, Barrow, Jackson</th>
<th>Date Updated: 2/27/2020</th>
<th>Stage: Reevaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmittal Date for Plans Reviewed by OES (if applicable): TBD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| A-288 | PS 109 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-289 | PS 109 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-290 | WL 110 | 0013545 | No activity | " | " | " | " |
| A-291 | IS 111 | 0013545 | No activity | " | " | " | " |
| A-292 | IS 111 Buffer | 0013545 | 25-Foot Stream Buffer; Non-exempt buffer impacts anticipated | " | " | " | " |
| A-293 | OW 112 | 0013545 | No activity | " | " | " | " |
| A-294 | OW 112 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-295 | PS/IS 113 Buffer | 0013545 | No activity | " | " | " | " |
| A-296 | PS/IS 113 Buffer | 0013545 | 25-Foot Stream Buffer; Non-exempt buffer impacts anticipated | " | " | " | " |
| A-297 | IS 114 | 0013545 | No activity | " | " | " | " |
| A-298 | IS 114 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-299 | WL 115 | 0013545 | No activity | " | " | " | " |
| A-300 | IS 116 | 0013545 | No activity | " | " | " | " |
| A-301 | IS 116 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-302 | PS 117 | 0013545 | No activity | " | " | " | " |
| A-303 | PS 117 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-304 | IS 118 | 0013545 | No activity | " | " | " | " |
| A-305 | IS 118 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-306 | PS 119 | 0013545 | No activity | " | " | " | " |
| A-307 | PS 119 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-308 | PS 120 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-309 | PS 120 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-310 | IS 121 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-311 | IS 121 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-312 | WL 122 | 0013545 | No activity | " | " | " | " |
| A-313 | EC 123 | 0013545 | No activity | " | " | " | " |
| A-314 | IS/EC 124 | 0013545 | No activity | " | " | " | " |
| A-315 | IS 124 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-316 | PS 125 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-317 | PS 125 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-318 | WL 126 | 0013545 | No activity | " | " | " | " |
| A-319 | PS 127 | 0013545 | No activity | " | " | " | " |
| A-320 | PS 127 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-321 | IS 128 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-322 | IS 128 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |
| A-323 | WL 129 | 0013545 | No activity | " | " | " | " |
| A-324 | IS 130 | 0013545 | No activity | " | " | " | " |
| A-325 | IS 130 Buffer | 0013545 | 25-Foot Stream Buffer, No activity | " | " | " | " |

*Represents striping within PI 110600 completed under PI 110610. Resources must be identified here due to overlap of those PI numbers.

Estimated Costs are for planning purpose only, in current dollars as of date updated.
<table>
<thead>
<tr>
<th>A-326</th>
<th>PS 131</th>
<th>00135-5</th>
<th>No activity</th>
<th>&quot;</th>
<th>&quot;</th>
<th>&quot;</th>
<th>&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-327</td>
<td>PS 131 Buffer</td>
<td>00135-5</td>
<td>25-Foot Stream Buffer, No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-328</td>
<td>IS 132</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-329</td>
<td>IS 132 Buffer</td>
<td>00135-5</td>
<td>25-Foot Stream Buffer, No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
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<tr>
<td>A-330</td>
<td>WL 133</td>
<td>00135-5</td>
<td>No activity</td>
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<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-331</td>
<td>WL 134</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-332</td>
<td>PS 135</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-333</td>
<td>PS 135 Buffer</td>
<td>00135-5</td>
<td>25-Foot Stream Buffer; Non-exempt buffer impacts anticipated</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-334</td>
<td>WL 136</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-335</td>
<td>EC 137</td>
<td>00135-5</td>
<td>102.1 ft/0.005 acre of pipe</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-336</td>
<td>IS 138</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-337</td>
<td>IS 138 Buffer</td>
<td>00135-5</td>
<td>25-Foot Stream Buffer, No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-338</td>
<td>WL 139</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-339</td>
<td>WL 140</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-340</td>
<td>WL 141</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-341</td>
<td>PS 142</td>
<td>00135-5</td>
<td>Temporary stream impacts as a result of de-watering for bridge demolition/bent removal are anticipated</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-342</td>
<td>PS 142 Buffer</td>
<td>00135-5</td>
<td>25-Foot Stream Buffer; Exempt buffer impacts anticipated. 100-foot roadway drainage structure exemption.</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-343</td>
<td>IS/EC 143</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-344</td>
<td>IS 143 Buffer</td>
<td>00135-5</td>
<td>25-Foot Stream Buffer, No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-345</td>
<td>WL 144</td>
<td>00135-5</td>
<td>No activity</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-346</td>
<td>WL 145</td>
<td>00135-5</td>
<td>0.416 acre impact by clearing conversion</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>A-347</td>
<td>PS 146</td>
<td>00135-5</td>
<td>Temporary stream impacts as a result of de-watering for bridge demolition/bent removal are anticipated</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

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### ENVIRONMENTAL COMMITMENTS TABLE

P.I.#s: 110610- & 0013545, Counties: Gwinnett, Barrow, Jackson  
| Date Updated: 2/27/2020 | Stage: Reevaluation  
| Transmittal Date for Plans Reviewed by OES (if applicable): TBD |

| A-348 | PS 146 Buffer | 0013545 | 25-Foot Stream Buffer; Exempt buffer impacts anticipated. 100-foot roadway drainage structure exemption. |  |  |  |
| A-349 | WL 147 | 0013545 | 0.006 acre impact by clearing conversion |  |  |  |
| A-350 | WL 148 | 0013545 | 0.023 acre impact by clearing conversion |  |  |  |
| A-351 | PS 149 | 0013545 | No activity |  |  |  |
| A-352 | PS 149 Buffer | 0013545 | 25-Foot Stream Buffer, Nc activity |  |  |  |
| A-353 | IS 150 | 0013545 | No activity |  |  |  |
| A-354 | IS 150 Buffer | 0013545 | 25-Foot Stream Buffer, Nc activity |  |  |  |
| A-355 | Listed Species | 0013545 | Project would be constructed such that harm to listed species would be avoided | B-1 | ERS-AOER 4.7.2017 | Not Required |  |
| A-356 | Resource 1 | 110610- | No Activity | Boundary Transmittal 6.26.17 | Yes |  |
| A-357 | Resource 2 | 110610- |  |  |  |  |

*At the southern terminus of proposed project PI# 110610, an adjacent I-85 Express Managed Lanes project (PI# 110600) is currently under construction. There is a 5.9-mile section of overlap between these two projects. Only re-stripping work within the existing I-85 pavement footprint would occur under PI# 110610. Impacts to federally jurisdictional waters and state mandated buffers in this 5.9-mile reach are a result of construction under PI# 110600 and were permitted under that project.

### B. Special Provisions (Attach all special provisions with transmittal letters to the commitments table, if available)

<table>
<thead>
<tr>
<th>Special Provision</th>
<th>P.I.#(s)</th>
<th>Purpose</th>
<th>Est. Cost</th>
<th>SP's Latest Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>SP 107.23.H</td>
<td>110610C-0013545</td>
<td>For the protection of listed species</td>
<td>Negligible</td>
</tr>
</tbody>
</table>

### C. ERIT Comments and Design Features (Description: For ERIT Comments, provide exact wording for the comments section of the ERIT)

<table>
<thead>
<tr>
<th>ERIT Comment or Design Feature</th>
<th>P.I.#(s)</th>
<th>Description</th>
<th>Est. Cost</th>
<th>Correctly Shown?</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-1 ERIT Comment</td>
<td>0013545</td>
<td>The contractor will ensure that no construction-related activities or access occur within the Orange Barrier Fencing protecting this resource. See Section A for applicable resources.</td>
<td>Negligible</td>
<td>No</td>
</tr>
<tr>
<td>C-2 ERIT Comment</td>
<td>0013545</td>
<td>The Office of Environmental Services shall be contacted prior to the installation of exclusionary devices for migratory birds. This is now a standard specification.</td>
<td>Negligible</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Design Feature</th>
<th>C-3</th>
<th>For noise abatement: A noise barrier (Barrier 4-1) would be constructed along the east side of I-85, beginning approximately 2,750 feet north of Hamilton Mill Road. (See Commitment E-3 for required noise abatement public outreach)</th>
<th>$521,203</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Feature</td>
<td>C-4</td>
<td>For noise abatement: A noise barrier (Barrier 4-2) would be constructed along the west side of I-85, beginning approximately 7,230 feet north of Hamilton Mill Road. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$1,547,510</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-5</td>
<td>For noise abatement: A noise barrier (Barrier 4-3) would be constructed along the east side of I-85, beginning approximately 1,150 feet north of Spout Springs Road. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$2,365,316</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-6</td>
<td>For noise abatement: A noise barrier (Barrier 4-4) would be constructed along the west side of I-85, beginning at Spout Spring Road. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$2,726,233</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-7</td>
<td>For noise abatement: A noise barrier (Barrier 4-5) would be constructed along the west side of I-85, beginning approximately 30 feet north of Flowery Branch Road. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$1,809,733</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-8</td>
<td>For noise abatement: A noise barrier (Barrier 4-6) would be constructed along the east side of I-85, beginning approximately 75 feet north of Flowery Branch Road. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$870,893</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-9</td>
<td>For noise abatement: A noise barrier (Barrier 5-1) would be constructed along the east side of I-85, beginning approximately 5,000 feet north of Flowery Branch Road. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$994,756</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-10</td>
<td>For noise abatement: A noise barrier (Barrier 3) would be constructed along the east side of I-85, beginning approximately 700 feet north of SR 53 adjacent to the I-85 northbound on ramp. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$804,252</td>
<td>&quot;</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-11</td>
<td>For noise abatement: A noise barrier would be constructed along the west side of I-85, beginning approximately 1,500 feet north of SR 53. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$4,698,854</td>
<td>No</td>
</tr>
<tr>
<td>Design Feature</td>
<td>C-12</td>
<td>For noise abatement: A noise barrier would be constructed along the west side of I-85, beginning approximately 2,800 feet north of SR 60. (See Commitment E-3 for required noise abatement public outreach)</td>
<td>$439,964</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

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Estimated Costs are for planning purpose only, in current dollars as of date updated.
### D. NecessaryPermits, Buffer Variances and Mitigation Credits

<table>
<thead>
<tr>
<th>Permit, Variance, etc.</th>
<th>P.I. #(s)</th>
<th>Add'l Info (permit expiration date, number of credits needed, etc...)</th>
<th>Est. Cost</th>
<th>Acquired?</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-1 Notice of Intent (NOI) for NPDES</td>
<td>110610-, 0013545</td>
<td>The Design-Build Contractor will submit an NOI to the NPDES General Permit to the Georgia Environmental Protection Division (EPD) following award of the contract but prior to construction activities.</td>
<td>Negligible</td>
<td>Complete for 110610-0013545, Incomplete for 0013545</td>
</tr>
<tr>
<td>D-2 Section 404 Permit</td>
<td>110610-, 0013545</td>
<td>For PI No. 110610- a Nationwide Permit would be required for a total of 143 linear feet (0.162 acre) of stream impacts, and 0.01 acre of wetland impacts. For PI No. 0013545 a Regional Permit would be required for a total of 102.1 linear feet (0.01 acre) of ephemeral channel, and 0.445 acre of wetland impacts as well as temporary impacts to perennial streams.</td>
<td>Negligible</td>
<td>Complete for 110610-0013545, A Permit was issued on 10/18/18, Incomplete for 0013545</td>
</tr>
<tr>
<td>D-3 Wetland Mitigation Credits</td>
<td>110610-, 0013545</td>
<td>It is anticipated that wetland mitigation credits will be required. The number of credits will be determined during the final design phase.</td>
<td>$4,000¹</td>
<td>Complete for 110610-0.08 wetland credits were purchased on 9/27/18, Incomplete for 0013545</td>
</tr>
<tr>
<td>D-4 Stream Mitigation Credits</td>
<td>110610-, 0013545</td>
<td>It is anticipated that stream mitigation credits will be required. The number of credits will be determined during the final design phase.</td>
<td>$22,775¹</td>
<td>Complete for 110610-911 stream credits were purchased on 9/27/18, Incomplete for 0013545</td>
</tr>
<tr>
<td>D-4 Buffer Variance</td>
<td>0013545</td>
<td>Non-exempt buffer impacts anticipated at streams: IS 111, PS/IS 113, and PS 135</td>
<td>Negligible</td>
<td>No</td>
</tr>
<tr>
<td>D-5 Buffer Mitigation</td>
<td>0013545</td>
<td>It is anticipated that buffer mitigation credits will be required. The number of credits will be determined during the final design phase.</td>
<td>TBD</td>
<td>No</td>
</tr>
</tbody>
</table>

¹ Cost is for 110610- mitigation credits only. Costs for 0013545 to be added when acquired.

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Estimated Costs are for planning purpose only, in current dollars as of date updated.
## E. Other Commitments or Requirements (Status: Pre- and Post – Complete or Incomplete; During – Signature Req’d)

<table>
<thead>
<tr>
<th>Pre-, During, or Post</th>
<th>P.I.#(s)</th>
<th>Commitment</th>
<th>Responsible party</th>
<th>Est. Cost</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td></td>
<td>The public, local officials, EMS, local schools and churches will be notified of the detours 30 days prior to bridge closure per GDOT guidance. Commitments resulting from coordination with schools, EMS and local officials from Phase I Construction Segments will be updated for future Phase II Construction Segments.</td>
<td>OID and Design-Build Contractor</td>
<td>Negligible</td>
<td>Complete for EMS / Schools 110610- Spout Springs Road 12/19/18: Jesse Cronic Road 5/9-10/19. Flowery Branch Road 11/20/19 Incomplete for 0013545</td>
</tr>
<tr>
<td>E-2</td>
<td></td>
<td>Detour – The Design-Build Team shall observe the following project specific restrictions: The Design-Build Team shall coordinate with the Department to make sure that the Spout Springs Road detour period does not conflict with the detour period of the Flowery Branch Road detour.</td>
<td>OID and Design-Build Contractor</td>
<td>Negligible</td>
<td>Complete</td>
</tr>
<tr>
<td>E-3</td>
<td></td>
<td>Prior to the Georgia DOT’s final decision on the placement of any noise abatement, Georgia DOT will conduct outreach with the affected individuals after final design to determine community support for abatement. Due the nature of the Design-Build process, cetemination of when Final Design has been met will be agreed upon by the Design-Build Contractor and the Georgia DOT Project Manager. All NEPA decisions are the responsibility of Georgia DOT and/or FHWA, and will not be made by the Design-Build Contractor. See Section C for potential noise abatement locations.</td>
<td>OID and Design-Build Contractor</td>
<td>Negligible</td>
<td>Complete for 110610- July 2018 Incomplete for 0013545</td>
</tr>
</tbody>
</table>

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## Environmental Commitments Table

**P.I. #:** 110610- & 0013545, Counties: Gwinnett, Barrow, Jackson  
**Date Updated:** 2/27/2020 | **Stage:** Reevaluation  
**Transmittal Date for Plans Reviewed by OES (if applicable):** TBD

| E-4 | Pre-construction | 110610-0013545 | The Design-Build Contractor will retain existing vegetation, where feasible in accordance with GDOT Clearing and Grubbing Right of Way Policy, in all areas of the project where retaining walls and/or noise barriers are not proposed to buffer affected property owners from proposed travel lanes. | OES, OID and Design-Build Contractor | Negligible | Complete for 110610-0013545  
Incomplete for 0013545 |
| E-5 | Pre-Construction | 112610-0013545 | The Design-Build Contractor will prepare final hydrologic and hydraulic analysis using the most current information available. Should the proposed improvements result in any increase to the base flood elevations, floodway elevations, or floodway widths at Ivy Creek, Wheeler Creek, Middle Oconee River, Mulberry River or Walnut Creek, Federal Emergency Management Agency (FEMA) coordination and Community (Gwinnett, Barrow, and/or Jackson County and cities) coordination shall be conducted by the GDOT, as well as submittal of a Conditional Letter of Map Revision prior to construction and Letter of Map Revision after construction to FEMA. | OID and Design-Build Contractor | Negligible | Complete for 110810-5/11/18; Zone A  
Incomplete for 0013545 |
| E-6 | During Construction | 110610- | Construction within PS-83/Mulberry River will be started and completed in less than one year. | OID and Design-Build Contractor | Negligible | Incomplete |
| E-7 | During Construction | 110610- | Prior to beginning construction activities north of SR 53, public outreach will occur to residents within the Vineyard and Vineyard Gates subdivisions adjacent to Noise Barrier 4, as shown on Figure 6 of the 10/9/2018 Approved Reevaluation. | OID and OES | Negligible | Complete 11/30/18 |

**Total Estimated Cost:** $11,556,670

If Project is Complete or Under Construction, Area or Construction Engineer affirms that all Special Provisions, Plan Notes and During Construction Commitments were or are being adhered to during the project's construction.

Please Print Name and Title: _____________________________ Signature: _____________________________ Date: __________ Please provide an explanation if unable to sign.

*Represents striping within PI 110600 completed under PI 110610. Resources must be identified here due to overlap of those PI numbers.

Estimated Costs are for planning purpose only, in current dollars as of date updated.
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 4-2

SPECIAL PROVISION

SECTION 107.23.H
Add the following to Subsection 107.23:

H. Protection of Environmentally Sensitive Species

The following conditions are intended as a minimum to protect these species and their habitat during any activities that are in close proximity to the known location(s) of these species.

1. All Project personnel employed to work on this project shall be advised about the potential presence and appearance of the state protected Chattahoochee crayfish (*Cambarus howardi*) and the Altamaha shiner (*Cyprinella xaenura*). All personnel shall be advised that there are penalties for killing, capturing, or selling of the Chattahoochee crayfish or the Altamaha shiner under the Georgia Endangered Wildlife Act of 1973. Habitat for the Chattahoochee crayfish is present in streams PS 2, PS 46, PS 70, PS 71, PS 119, PS 125, PS 127, PS 131, and PS 135. Habitat for the Altamaha shiner is present in streams PS 63, PS 83, PS 84, PS 142, and PS 146. Pictures and habitat information will be provided at the preconstruction conference and shall be posted in a conspicuous location in the Project field office until such time that Project construction has been completed and time charges have stopped.

2. At any time, concrete debris, paving materials, litter, or demolition debris shall not be allowed to fall or be placed into PS 2, PS 46, PS 63, PS 70, PS 71, PS 83, PS 84, PS 119, PS 125, PS 127, PS 131, PS 135, PS 142, and PS 146.

3. Equipment staging areas and equipment maintenance areas (particularly for oil changes) shall be located at least 200 feet from the banks of PS 2, PS 46, PS 63, PS 70, PS 71, PS 83, PA 84, PS 119, PS 125, PS 127, PS 131, PS 135, PS 142, and PS 146 to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering streams.

4. All stockpiled soils and materials shall be placed at least 200 feet away from the stream banks to prevent rain runoff into PS 2, PS 46, PS 63, PS 70, PS 71, PS 83, PA 84, PS 119, PS 125, PS 127, PS 131, PS 135, PS 142, and PS 146.

5. Pesticides or herbicides shall not be used within 200 feet of the banks of PS 2, PS 46, PS 63, PS 70, PS 71, PS 83, PS 84, PS 119, PS 125, PS 127, PS 131, PS 135, PS 142, and PS 146. Fertilizer shall only be used while grading graded areas to achieve site stabilization.
6. The Project Engineer shall be notified immediately in the event of an erosion control failure that allows discharge of sediment into PS 2, PS 46, PS 63, PS 70, PS 71, PS 83, PS 84, PS 119, PS 125, PS 127, PS 131, PS 135, PS 142, and PS 146. The Project Engineer in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at ecology_submittals@dot.ga.gov.

7. In the event that any incident occurs that causes harm or injury to the Chattahoochee Crayfish or the Altamaha shiner along the Project corridor, the incident shall immediately be reported to the Project Engineer who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at 404-631-1101. All activity, except traffic control and erosion control, shall cease pending consultation by the Department with the U.S. Fish and Wildlife Service and the lead Federal Agency.

8. A log detailing any incidents that cause harm or injury to the Chattahoochee Crayfish or the Altamaha shiner in or adjacent to the Project shall be kept until such time that Project construction has been completed and time charges have stopped. Following Project completion, the log and a report summarizing any incidents that caused harm or injury to these species shall be submitted to the Project Engineer and the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services, 600 West Peachtree Street NW, Atlanta, GA 30308. The GDOT in turn will provide copies of the report to the U.S. Fish and Wildlife Service, the Georgia Department of Natural Resources, and the lead Federal Agency.

9. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 4-3

SPECIAL PROVISION

SECTION 107.23.G
107.23 Environmental Considerations

G. Protection of Migratory Birds and Bats

The following conditions apply to construction, demolition, and maintenance activities on bridges and box culverts. These conditions are intended as a minimum to protect nesting migratory birds and roosting bats.

All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

1. General Information for Project Personnel

   a. The Contractor shall notify project personnel about the potential presence and appearance of federally protected migratory birds, including without limitation the barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), and eastern phoebe (*Sayornis phoebe*), and that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting these species in violation of the Migratory Bird Treaty Act of 1918. The law protects adults, fledglings, nestlings, eggs, and active nests. The Contractor shall notify project personnel about the potential presence and appearance of bats, all of which are protected under Georgia state law (Official Code of Georgia § 27-1-28).

   b. Prior to the commencement of work, the Contractor shall post detail sheets with photographs and information about these species in a conspicuous location in the project field office. The detail sheets shall be posted until such time that construction has been completed and time charges have stopped. If there is no project field office, the detail sheets shall be distributed directly to project personnel.

2. Bridges

   a. At least 30 calendar days prior to the start of construction activities, demolition activities, or maintenance activities on the underside of any bridges, the Contractor shall request the phone number and email address of the Animal and Plant Health Inspection Service (APHIS) Biologist from the GDOT Area Manager, and shall provide the APHIS Biologist with the following information via phone. Immediately following that phone call, the Contractor shall email this information to the APHIS Biologist and copy the GDOT Area Manager and GDOT State Environmental Liaison at birdreport@dot.ga.gov.

      i. Date of call.
      ii. GDOT Project Identification (PI) number.
      iii. Number of bridges in project area that will be part of the Work.
      iv. For each bridge:
1. Bridge serial number.
2. Expected start date of the activities.
3. Expected completion date of the activities.
4. If using a temporary detour and/or work bridge, expected start dates of construction and demolition.

b. The APHIS Biologist will develop an action plan in coordination with the GDOT Area Manager that will address nest prevention and removal. The Contractor shall comply with the action plan. Per the action plan, the APHIS Biologist may conduct routine surveys and perform timely removal of inactive nests. An inactive nest is a nest that does not contain any eggs or nestlings.

c. The Contractor shall afford the APHIS Biologist right-of-entry in order to access any bridge so that all nests can be inspected and inactive nests can be removed.

d. The Contractor shall not utilize exclusionary barriers on any bridge due to the risk of entanglement and entrapment of birds.

3. Box Culverts

a. The construction of box culvert extensions, or demolition or maintenance activities on any box culvert, shall take place outside of the breeding and nesting season of migratory birds, which begins April 1 and extends through August 31, unless exclusionary barriers are put in place to prevent birds from nesting. Exclusionary barriers consist of overlapping strips of flexible plastic (also called “PVC Strip Doors” or “Strip Curtains”). Due to the risk of entanglement, nets are not appropriate exclusionary barriers on a box culvert. Exclusionary barriers on any box culvert must be installed prior to March 15, but at no time between March 15 and August 31 unless the GDOT State Environmental Liaison provides written authorization.

b. Prior to the installation of any exclusionary barriers, the Contractor shall notify the GDOT Area Manager and the GDOT State Environmental Liaison at birdreport@dot.ga.gov of the decision to install exclusionary barriers. This email shall include the following information:

   i. GDOT Project Identification (PI) number.
   ii. Number of box culverts in project area that will be part of the Work.
   iii. Expected date of installation on each box culvert.
   iv. Location of each exclusionary barrier installed (station and offset).

c. For any box culvert being demolished, the Contractor shall install exclusionary barriers at both the inlet and outlet openings. For any box culvert being extended, demolished, or maintained, the Contractor shall install exclusionary barriers at the inlet or outlet opening where work will take place.

d. While installed, exclusionary barriers shall be inspected by the Contractor at least twice each week for gaps or other defects that could impair their ability to exclude migratory birds from nesting in a box culvert. If any gaps or defects are identified, they shall be repaired immediately unless active nests are present in the box culvert. The Contractor shall ensure no birds or bats are entrapped within a box culvert while exclusionary barriers are installed on both the inlet and outlet of a box culvert.

4. Reporting Requirements

a. In the instances listed below, the Contractor shall cease work (except for erosion control and traffic control) on the underside of the bridge or box culvert and notify the GDOT Area Manager as well as the GDOT State Environmental Liaison at 404-631-1817. Work shall not recommence until written authorization is received from the GDOT State Environmental Liaison if:
i. migratory birds establish an active nest on a bridge or box culvert,
ii. a migratory bird is harmed or injured,
iii. evidence of a significant bat colony is observed on a bridge or box culvert, such as a high number of bats (approximately 50 or more) or a large accumulation of guano (bat droppings), or
iv. a bat is harmed or injured.

b. If the Work is suspended, the Contractor may submit a request for additional contract time as allowed under Section 108. The Department will review the request and may grant additional contract time as justified by the impact to the Contractor’s schedule. Compensation for loss of productivity, rescheduling of crews, rental of equipment or delays to the Contractor’s schedule will not be considered for payment. Additional contract time will be the only consideration granted to the Contractor.

c. Within 30 calendar days of the completion of the Work and the stopping of time charges, the Contractor shall provide a report regarding exclusionary barriers to the GDOT State Environmental Liaison at birdreport@dot.ga.gov. The following information will be included in the report:

i. Contractor’s name and address.
ii. Name and title of report preparer.
iii. GDOT Project Identification (PI) number.
iv. County(ies) in which the Project is located.
v. Construction start and end dates.
vi. Date GDOT was notified of intent to install barriers per # 107.23G.3.b.
vii. Quantity and location of structures on which exclusionary barriers were installed.
viii. Type of exclusion material used on each structure.
ix. Start and end date of installation of exclusionary barriers on each structure.
x. Start and end date of removal of exclusionary barriers from each structure.
xi. Photographs of each structure before and after installation of exclusionary barriers.
xii. Photographs of each structure after the removal of the exclusionary barriers.
xiii. Description of any incidents of harm or injury to migratory birds during the Work. This should include incidents that were reported as required under 107.23G.4.a.
xiv. Description of any incidents of harm or injury to any bat during the Work. This should include incidents that were reported as required under 107.23G.4.a.
xv. All other information that may be relevant regarding the protection of migratory birds and bats.
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 6-1
LEGAL REGULATIONS AND RESPONSIBILITY
TO THE PUBLIC

SS 107 Legal Regulations and Responsibility to the Public
DEPARTMENT OF
TRANSPORTATION STATE OF
GEORGIA
SUPPLEMENTAL SPECIFICATION

Section 107 – Legal Regulations and Responsibility to the Public

Delete Section 107 and Substitute the following:

107.01 Laws to Be Observed
The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, codes, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on The Work, or which in any way affect the conduct of The Work. The Contractor shall at all times observe and comply with all such laws, ordinances, codes, regulations, orders, decrees, and permits; and shall protect and indemnify the Department and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, code, regulation, order, decrees, and permits, whether by himself, his employees, subcontractors, or agents.

107.02 Permits and Licenses
The Contractor shall procure all permits and licenses, pay all charges, taxes, and fees, and give all notices necessary and incidental to the due and lawful prosecution of The Work.

107.03 Patented Devices
If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the Surety shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright, and shall indemnify the Department for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of The Work.

107.04 Restoration of Surfaces Opened By Permit
The right to construct or reconstruct any utility service in the highway or street and to grant permits for the same at any time, is expressly reserved by the Department for the proper authorities of the municipality or county in which The Work is done and the Contractor shall not be entitled to any damages either for the digging up of the street or highway, or for any delay occasioned thereby.

Any individual, firm, or corporation wishing to make an opening in the street or highway must secure a permit from the Department. The Contractor shall allow parties bearing such permits, and only those parties, to make openings in the street or highway. When ordered by the Engineer, the Contractor shall make in an acceptable manner all necessary repairs due to such openings and such necessary work will be paid for as Extra Work, or as provided in the Specifications, and will be subject to the same conditions as original work performed.

107.05 Federal-Aid Provisions
When the United States Government pays all or any part of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and The Work shall be subject to the
inspection of the appropriate Federal agency. Such inspection shall in no sense make the Federal Government a party to this Contract and will in no way interfere with the rights of either party hereunder.

107.06 Sanitary Provisions
The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State Department of Health and other authorities having jurisdiction, and shall permit no public nuisance.

107.07 Public Convenience and Safety
The Contractor shall at all times so conduct The Work as to assure the least possible obstruction of traffic. The safety and convenience of the general public and the residents along the highway and the protection of persons and property shall be provided for by the Contractor as specified under Subsection 104.05, Subsection 107.09, Section 150, the Project Plans, and Special Provisions.

Traffic whose origin and destination is within the limits of the Project shall be provided ingress and egress at all times unless otherwise specified in the Plans or Special Provisions. The ingress and egress includes entrance and exit via driveways at the various properties, and access to the intersecting roads and streets. The Contractor shall maintain sufficient personnel and equipment on the project at all times, particularly during inclement weather, to ensure that ingress and egress are provided when and where needed.

Two-way traffic shall be maintained at all times unless otherwise specified or approved. The Contractor shall not stop traffic without permission granted by the Engineer.

All equipment used on The Work shall come equipped with factory-installed mufflers, or manufacturer’s recommended equivalent, in good condition. These mufflers shall be maintained in good condition throughout the construction period.

107.08 Railroad-Highway Provisions
All work to be performed by the Contractor on a railroad company’s right-of-way or property shall be done in a manner satisfactory to the chief engineer of the railroad company, or his authorized representative, and shall be performed at such times and in such manner as not to unnecessarily interfere with the movement of trains or traffic upon the track of the railroad company. The Contractor shall use all reasonable care and precaution in order to avoid accidents, damage, or unnecessary delay or interference with the railroad company’s trains or other property, or property of tenants of railroad company.

The Contractor shall notify the railroad company and obtain its approval before commencing work on the railroad company’s right-of-way or property.

The Contractor shall determine what measures are required by the railroad company to protect its operations and right-of-way or property during construction. Such protection may include the use of a flagger or flaggers provided by the railroad company. The Contractor shall be responsible for ensuring that the required protection is provided and shall pay the railroad company directly for any and all such services which may be required to accomplish the construction unless otherwise specified.

Any temporary grade crossings or other means needed during construction by the Contractor for transporting materials of any nature and/or equipment across the railroad tracks will be the responsibility of the Contractor to handle directly with the railroad company and bear all costs incidental to such crossings including flagging services provided by the railroad company.

A “Special Provisions for the Protection of Railroad Interests” may be included in the proposal to stipulate insurance and other requirements of the railroad company.

107.09 Barricades and Danger, Warning, and Detour Signs
The Contractor shall furnish, install, and maintain all necessary and required barricades, signs, and other traffic control devices in accordance with these Specifications, Project Plans, Special Provisions, and the MUTCD, and take all necessary precautions for the protection of the work and safety of the public.
Unless otherwise specified, all traffic control devices furnished by the Contractor shall remain the property of the Contractor.

107.10 Forest Protection

In carrying out work within or adjacent to State or National Forests, or any other forests, parks, or other public or private lands, the Contractor shall obtain necessary permits and comply with all of the regulations of the appropriate authorities having jurisdiction over such forest, park, or lands. The Contractor shall keep the areas in an orderly condition, dispose of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the appropriate authority.

The Contractor shall take all reasonable precautions to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of forest officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires; to notify a forest official at the earliest possible moment of the location and extent of any fire seen by them; and to extinguish or aid in extinguishing nearby fires.

107.11 Construction Over or Adjacent to Navigable Waters

A. Navigation to Be Protected

Since navigable waterways are under the jurisdiction of the United States Coast Guard and/or the United States Army Corps of Engineers, all work done in, over, on or adjacent to such waters shall comply with their requirements. Free navigation shall not be impeded, and navigable depths shall be maintained.

The Contractor shall comply with permits issued by the United States Coast Guard and/or the United States Army Corps of Engineers, and the Contractor shall obtain and comply with other permits in accordance with the requirements of Subsection 107.02

Special Provisions for environmental protection may be included in the proposal to stipulate environmental commitments and other requirements.

B. Obstructions to be Removed

When the construction has progressed enough to permit removal, all falsework, piling and other obstructions shall be removed to the satisfaction of the Federal agency having jurisdiction. In all cases such clearing must be done thoroughly before The Work will be accepted by the Department.

107.12 Use of Explosives

When the use of explosives is necessary for the prosecution of The Work, the Contractor shall exercise the utmost care not to endanger life or property, and shall obey all State, Federal and other Governmental regulations applying to transportation, storage, use, and control of such explosives. The Contractor shall be completely responsible for any and all damage resulting from the transportation, storage, use, and control of explosives in the prosecution of The Work by the Contractor, the Contractor’s agents, or employees; and shall hold the Department harmless from all claims of damages resulting in any manner therefrom.

The Contractor shall notify each public utility owner having structures or other installations, above or below ground, near the site of The Work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the utility owners to take such steps as they may deem necessary to protect their property from injury. Such notice shall not relieve the Contractor of responsibility for all damages resulting from his blasting operations.

All explosives shall be stored securely in compliance with all laws and ordinances, and all such storage places shall be clearly marked DANGEROUS EXPLOSIVES. Explosives and detonators shall be stored in separate storage facilities in separate areas. Where no laws or ordinances apply, locked storage shall be provided satisfactory to the Engineer, never closer than 1,000 ft (300 m) from any travel-road, building, or camping area.

In all cases where the transport, storage, or use of explosives is undertaken, such activities shall be controlled and directed by fully qualified representatives of the Contractor.
Whenever electric detonators are used, all radio transmitters shall be turned off within a radius of 500 ft (150 m). No blasting supplies shall be transported in vehicles with two-way radio unless the transmitter is turned off, or extra shielding precautions are taken. Appropriate signs shall be placed so as to give ample warning to anyone driving a vehicle equipped with two-way radio. Electrical detonators will not be used within 500 ft (150 m) of a railroad.

Submit a blasting plan to the Engineer a minimum of five working days prior to use of explosives that provides details of the proposed blasting plan, including, but not limited to, the type and amount of explosives, the shot sequence, the description of and distance to the closest inhabitable structure, and other information as requested by the Engineer. Submission of blasting plan does not relieve the contractor of the responsibility for the adequate and safe performance of the blasting.

107.13 Protection and Restoration of Property and Landscape

A. General Provisions

The Contractor shall be responsible for the preservation of all public and private property, crops, fish ponds, trees, monuments, highway signs and markers, fences, grassed and sodded areas, etc. along and adjacent to the highway, and shall use every precaution necessary to prevent damage or injury thereto, unless the removal, alteration, or destruction of such property is provided for under the Contract. The Contractor shall use suitable precaution to prevent damage to all underground structures, whether shown on the Plans or not, and shall protect carefully from disturbance or damage, all land monuments and property marks until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed. The Contractor shall not willfully or maliciously injure or destroy trees or shrubs, and he shall not remove or cut them without proper authority.

The Contractor shall be responsible for all sheet piling, shoring, underpinning, etc., as may be required for the protection of abutting property, nearby buildings, streets, and the like.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of The Work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing The Work, or at any time due to defective work or materials, and said responsibility will not be released until the Project shall have been completed and accepted.

When the Contractor’s excavating operations encounter remains of prehistoric people’s dwelling sites or artifacts of historical or archeological significance, the operations shall be temporarily discontinued. The Engineer will contact archeological authorities and the Office of Environmental Services to determine the disposition thereof. When directed by the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper authorities. Such excavation will be considered and paid for as Extra Work.

When the Contractor’s normal operations are delayed by such stoppage or extra work, an appropriate time extension will be granted.

The Contractor shall plan, coordinate, and prosecute the work so that disruption to personal property and business is held to a practical minimum.

No resident or business shall be denied vehicular access to their property for any length of time other than as determined by the Engineer is absolutely necessary. Where two or more existing driveways are present for a business, only one existing driveway shall be closed at any time. All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing, and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris are removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately
follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described above shall be in addition to that required by Subsection 104.07, “Final Cleaning Up” and Subsection 105.16, “Final Inspection and Acceptance”.

**B. Erosion and Siltation Control**

The Contractor shall take all necessary measures throughout the life of the Project to control erosion and silting of rivers, streams, and impoundments (lakes, reservoirs, etc.). Construction of drainage facilities as well as performance of other Contract work which will contribute to the control of erosion and siltation shall be carried out in conjunction with clearing and grubbing, and earthwork operations as stipulated in Section 161.

**C. Pollution**

The Contractor shall exercise every reasonable precaution throughout the life of the Contract to prevent pollution of rivers, streams or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful waste shall not be discharged into or alongside rivers, streams, and impoundments, or into natural or manmade channels leading thereto. The Contractor shall also comply with the applicable regulations of other State and Federal departments and to all governmental statues relating to the prevention and abatement of pollution.

**D. Insect Control Regulations**

The Plant Pest Control Division of the U.S. Department of Agriculture and the Georgia State Department of Agriculture restrict the movement of certain items from areas infested with Japanese Beetles or Imported Fire Ants so as to prevent the spread of these pests to non-infested areas. Where insect infested areas are shown on the Plans, Contractors will control their operations in such a manner as to comply fully with the requirements of Section 155.

**E. Reclamation of Material Pits and Waste Disposal Areas**

Whenever or wherever the Contractor obtains material from a source or wastes material on an area other than within the Right-of-Way, regardless of the fashion, manner or circumstances for which the source or area is obtained, it shall be reclaimed in accordance with the requirements of Section 160.

**F. Mailboxes**

The property owner shall have the responsibility for removing and relocating the mailbox to an area outside construction limits.

The Engineer will mark a point for the relocation of the box. The stake should be set so that the location of the box will be convenient to both the mail carrier and the patron, yet not interfering with the proposed work. It may be necessary for the Engineer to confer with the Post Office serving the area.

The Contractor shall notify each affected owner, in writing, that their mailbox is in conflict with the proposed construction, that they have ten days to relocate the box and that, after the expiration of the 10 days’ notice, if the owner has not relocated the box, it shall be removed by the Contractor and laid upon the owner’s property, clear of the Right-of-Way.

Any cost to the Contractor for removing the mailboxes as stated above shall be included in the price bid for other items.

**G. Failure to Comply**

Failure of the Contractor to comply with any of the above provisions or to install erosion prevention items included in the Contract at the time specified, will be evidence of omission and neglect, and the Contractor will be liable for damages as outlined in Subsection 107.13.H below. Furthermore, the Engineer shall withhold payment on all Contract Items until such time as the Contractor complies in full with all of the aforesaid provisions.
H. Payment for Damages

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or in consequence of the nonexecution thereof by the Contractor, the Contractor shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring as may be directed, or shall make good such damage or injury in an acceptable manner.

I. Compensation

All costs pertaining to any requirement contained herein shall be included in the overall Bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.14 Load Restrictions

It is hereby agreed between the Department and the Contractor that in the performance of The Work under the Contract, the following load restrictions and stipulations shall be in full force and effect during the life of the Contract:

A. Parties Affected

The load restrictions and stipulations contained herein shall be applicable to the equipment of the Contractor; each agent or subcontractor employed by the Contractor; and each person or persons, firm, partnership, corporation or any combination thereof, hauling materials, supplies or equipment to or on the Project, by or for the Contractor.

B. Within Project Limits

No hauling equipment which is loaded beyond those limits provided by State Law shall be permitted on any portion of the new or existing pavement structure except that such loads will be permitted on nonstabilized bases and subbases prior to placing roadway paving subject to the provisions of Subsection 107.17.

Axle loads and gross weight limits will be evaluated in accordance with current Georgia Law.

All damage caused by any equipment to any permanent installation or portion of The Work shall be promptly repaired by the Contractor at his expense. When it becomes necessary to cross existing pavement with excessive loads, the Contractor shall provide and remove, at his own expense, proper cushioning by means of earth blanket or otherwise as directed.

C. Outside Project Limits

All equipment users included in Subsection 107.14.A, above, operating equipment on roads outside the Project limits shall be governed by the following regulations:

1. No vehicle shall carry any load in excess of that specified by Georgia Law.

2. On County System roads the maximum total gross weight shall not exceed 56,000 lbs. (25,400 kg) unless a vehicle is making a pickup or delivery on such roads.

3. For a specific individual trip the above weight limitations may be exceeded provided a special permit is obtained from the Department for each such movement. A special permit will not relieve the Contractor of liability for damage that may result from such a movement. Refer to O.C.G.A §32-6-26 Weight of Vehicle and Load, SB54 (2011) for compliance with weight limitations and exceptions.

4. Authorized personnel of the Department of Public Safety shall be permitted to weigh each truck hauling material to the Project whenever the Department so desires. The owner of each truck shall instruct his operators to cooperate with and assist the truck weighers in every way possible.

5. A Certified Public Weigher operating under the provisions of Standard Operating Procedure 15 shall not dispatch any vehicle loaded with material to be incorporated into the Project when the gross vehicle weight exceeds the limit established by law.

6. Ready Mix Concrete trucks shall comply with load restrictions as specified in Laboratory Standard Operating Procedure 10, “Quality Assurance for Ready-Mixed Concrete Plants in Georgia.”
D. Responsibilities

It will be the responsibility of the Contractor to advise his personnel, and all equipment users included in Subsection 107.14.A, as to the load restrictions and stipulations contained herein.

E. Excess Loads and Violations

If multiple violations assignable to a given Certified Public Weigher are occurring, that Certified Public Weigher may be suspended from weighing materials dispatched to Department of Transportation projects.

107.15 Responsibility for Damage Claims

The Contractor shall indemnify and save harmless the Department, its officers and employees, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the said Contractor; or on account of or in consequence of any neglect in safe-guarding The Work; or through use of unacceptable materials in constructing The Work; or because of any act of omission, neglect or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Workmen’s Compensation Act, or any other law, ordinance, order, or decree; and so much of the money due the said Contractor under and by virtue of his Contract as may be considered necessary by the Department for such purpose may be withheld for the use of the State; or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

107.16 Opening Sections of Project to Traffic

Whenever any bridge or section of roadway is in acceptable condition for travel, the Engineer may direct that it be opened to traffic, whether or not the opening was originally provided for, and such opening shall not be held to be in any way an acceptance of the bridge or roadway, or any part thereof, or as a waiver of any of the provisions of the Contract. Necessary repairs or renewals made on any section of the roadway or bridge thus opened to traffic under instructions from the Engineer, due to defective material or work, or to any cause other than ordinary wear and tear, pending completion and acceptance of the roadway, bridge, or other work, shall be done by the Contractor, without additional compensation. Also, the Contractor shall not receive additional compensation for completing the Work except as specified in Subsection 104.03.

If the Contractor is dilatory in completing shoulders, drainage structures, or other features of work, the Engineer may so notify him in writing and establish therein a reasonable period of time in which the Work should be completed. If the Contractor is dilatory, or fails to make a reasonable effort toward completion in this period of time, the Engineer may then order all or a portion of the Project opened to traffic. On such sections which are so ordered to be opened, the Contractor shall conduct the remainder of his construction operations so as to cause the least obstruction to traffic and shall not receive any added compensation due to the added cost of the Work by reason of opening such section to traffic.

On any section opened to traffic under any of the above conditions, whether stated in the Special Provisions or opened by necessity of Contractor’s operations, or unforeseen necessity, any damage to the highway not attributable to traffic which might occur on such section (except slides) shall be repaired by the Contractor at his expense. The removal of slides shall be done by the Contractor on a basis agreed to prior to the removal of such slides.

107.17 Contractor’s Responsibility for the Work

From the first day the Contractor begins work, or from the date Contract Time commences, whichever occurs first, until written final acceptance of the project by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of The Work. The Contractor shall...
rebuild, repair, restore, and make good all injuries or damages to any portion of The Work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except that the Department may, in its discretion, reimburse the Contractor for the repair of damage to The Work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, of the public enemy or of governmental authorities. The Contractor’s responsibility for damages and injuries is defined in Subsection 104.05.A.

In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at his expense.

107.18 Acquisition of Right-of-Way
Rights of Way for the project will be obtained by the Department, in coordination with local governments and others. However, the Contractor’s access to the portions of the right-of-way may be restricted. Where such restrictions are known in advance to the Department they will be listed in the bid proposal. Delays to the progress of the Work may be encountered because of restricted access to portions of the right-of-way. When such delays occur, whether caused by restrictions listed in the bid proposal or restrictions that develop after the Contract is signed, the parties agree in executing the Contract that such delays do not constitute breach of the Contract. Delays in availability of right-of-way beyond those listed in the bid proposal, or that develop after the Contract has been signed, that impact the controlling Item or Items of the Work will not be charged against the Contract Time.

Additional compensation for such delays shall not be paid, except as provided in Subsection 105.13, “Claims for Adjustments and Disputes,” or Subsection 109.09, “Termination Clause.” In the event the Department is unable to acquire right-of-way needed for the project, resulting in delay to or termination of the project, such situation will also be controlled by this Section, and will not constitute a breach of the Contract by the Department.

107.19 Personal Liability of Public Officials
In carrying out any of the provisions of the Contract or in exercising any power or authority granted to the Board, Commissioner, Chief Engineer, their agents and employees, by the Contract, there shall be no liability, either personally or as officials or representatives of the Department, it being understood that in all such matters they act solely as agents and representatives of the Department.

107.20 No Waiver of Legal Rights
Upon completion of The Work, the Department will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or estop the Department from correcting any measurement, estimate, or certificate made before or after completion of The Work, nor shall the Department be precluded or estopped from recovering from the Contractor or his Surety, or both, such over-payment as it may sustain, or by failure on the part of the Contractor to fulfill his obligations under the Contract. A waiver on the part of the Department of any breach of any part of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the Contract, shall be liable to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Department’s rights under any warranty or guaranty.

107.21 General Description
The Contractor shall designate, prior to beginning any work, a Worksite Utility Coordination Supervisor (WUCS) who shall be responsible for initiating and conducting utility coordination meetings and accurately recording and reporting the progress of utility relocations and adjustment work. Also, the WUCS shall prepare an Emergency Response Plan for the purpose of planning, training, and communicating among the agencies responding to the emergency. The WUCS shall be the primary point of contact between all of the Utility companies, the Contractor and the Department. The WUCS shall recommend the rate of reoccurrence for utility coordination meetings and the Engineer will have the final decision on the regularity for utility coordination meetings. In no case will utility coordination meetings occur less than monthly.
until controlling items of utility relocations and adjustment milestones are completed. The WUCS shall contact each of the utility companies for the purpose of obtaining information including, but not limited to, a Utility Adjustment Schedule for the controlling items of utility relocations and adjustments. The WUCS shall notify the appropriate utility company and/or utility subcontractors and the Department of the status of controlling items of relocations and adjustment milestones as they are completed. The WUCS shall furnish the Engineer, for approval, a Progress Schedule Chart, immediately following the receipt of the Notice to Proceed unless otherwise specified, which includes the utility companies controlling items of work and other information in accordance with Section 108.03 or elsewhere in the Contract documents.

A. Qualifications
The WUCS shall be an employee of the Prime Contractor, shall have at least one year experience directly related to highway and utility construction in a supervisory capacity and have a complete understanding of the Georgia Utilities Protection Center operations, and shall be knowledgeable of the High-voltage Safety Act and shall be trained on the Georgia Utility Facility Protection Act (GUFPA). The Department does not provide any training on GUFPA but will maintain a list of the Georgia Public Service Commission certified training programs developed by other agencies. Currently the following companies offer approved GUFPA training programs:

Associated Damage Consultants
Phone: 706.234.8218 or 706.853.1362
Georgia Utility Contractors Association
Phone: 404.362.9995

Georgia Utilities Protection Center
Phone: 678.291.0631 or 404.375.6209
H B Training & Consulting
Phone: 706.619.1669 or 877.442.4282 (Toll Free)

The Prime Contractor is responsible for obtaining the GUFPA training for their employees. Questions concerning the Georgia Public Service Commission GUFPA training program should be directed to:

Georgia Public Service Commission
244 Washington St. SW
Atlanta, GA 30334-5701
404.463.9784

B. Ticket Status
During the utility coordination meetings the WUCS shall collect and maintain the Ticket Status information to determine the status of all locate requests within the project limits. This information will be used to assure those planning to use mechanized equipment to excavate or work within the project limits are prepared to begin work when they have reported or estimated beginning work. At points where the Contractor’s or utility company’s operations are adjacent to or conflict with overhead or underground utility facilities, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not commence until all arrangements necessary for the protection thereof have been made.
C. Notice
The names of known utility companies and the location of known utility facilities will be shown on the Plans, or listed in the Subsurface Utility Engineering Investigation if performed or in the Special Provisions; and the WUCS shall give 24-hour notice to such utility companies before commencing work adjacent to said utility facilities which may result in damage thereto. The WUCS shall further notify utility companies of any changes in the Contractor’s work schedules affecting required action by the utility company to protect or adjust their facilities. Notice to the utility companies by the Department of the Award of Contract, under Subsection 105.06, shall not be deemed to satisfy the notice required by this paragraph. Furthermore, this 24-hour notice shall not satisfy or fulfill the requirements of the Contractor as stated in Chapter 9 of Title 25 of the Official Code of Georgia Annotated, known as the “Georgia Utility Facility Protection Act”.

D. Agenda
The WUCS shall cooperate with the companies of any underground or overhead utility facilities in their removal and relocations or adjustment work in order that these operations may progress in a reasonable manner, that duplication of their removal and relocations or adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted. To promote this effort the WUCS shall prepare an agenda for the utility coordination meetings and circulate same in advance of the meeting to encourage input and participation from all of the utility companies. The agenda will be prepared by an examination of the project site and may include photographs of potential/actual utility conflicts.

E. Emergency Response Plan
The WUCS shall prepare an Emergency Utility Response Plan (EURP) within 30 days following the receipt of the Notice to Proceed. The EURP shall indicate the project location (which includes street address and or major intersections / major highway route, if possible with a landmark) that would be reported in case of an emergency, WUCS, Emergency Utility Coordinator (EUC), utility company name, utility company emergency contact information to include but not limited to emergency phone number, response time for emergency, working condition of devices needed to facilitate prompt shut off, and primary point of contact name and phone number for the project.

Emergency Utility Coordinator (EUC) shall be an employee of the Prime Contractor and shall notify the appropriate utility company and/or utility subcontractors in case of an emergency. EURP must include the contact details of the EUC, if WUCS is not the primary emergency utility coordinator for this project.

The plan will also include a means of reporting emergencies and the Utility Emergency Response Information for each company. The WUCS/EUC shall post the EURP in an area readily accessible to the Department and project personnel. Also, WUCS shall distribute the copies of EURP by e-mail and hard copy to GA DOT Area Engineer, GA DOT Construction Project Engineer, Contractor’s project manager, superintendent, and all approved sub-
contractors whose work can be in conflict with utilities facilities, personnel of the each facility/owner/ operator who has facilities within the project limits and keep a copy in close proximity to active construction.

In the event of interruption to gas, water or other utility services as a result of accidental breakage or as a result of being exposed or unsupported, the WUCS/EUC shall promptly notify the appropriate emergency officials, the Georgia Utilities Protection Center and the appropriate utility facility company or operator, if known. Until such time as the damage has been repaired, no person shall engage in excavating or blasting activities that may cause further damage to the utility facility.

In order to keep up with the latest / most updated EURP contact information (name and phone numbers); WUCS shall include an item in the agenda of Utility Coordination meeting about the updates / changes in the EURP plan.

The Emergency Utility Response Plan and Emergency Utility Response Information template can be found at the State of Georgia, Office of Utilities Webpage.

F. Submission
Provisions for reporting all utility coordination meetings, the progress of utility relocation and adjustment work milestones and ticket status information will be reported on a form developed by the WUCS and will be distributed by the WUCS to all of the utility companies as milestones are met and shall be included as part of the project records. These reports shall be delivered to the Engineer for review, on a monthly basis. The WUCS shall immediately report to the Engineer any delay between the utility relocation and adjustment work, the existing Utility Adjustment Schedule, or the proposed Utility Adjustment Schedule so that these differences can be reconciled.

G. Delays
Delays and interruptions to the controlling Item or Items of The Work caused by the adjustment or repair of water, gas, or other utility appurtenances and property may be considered for an extension of Contract Time as provided in Subsection 108.07.E unless such delays are due to the negligence of the Contractor.

H. Facilities Supported on Bridges
If the utility facilities are to be supported on bridges, the following provisions shall apply:
1. The Plans will show the location of the facility and the auxiliary items necessary to support the facility.
2. The Contractor constructing the bridge shall install anchor bolts, thimbles, inserts, or other auxiliary items attached to the bridge as a part of the support for the utility facility. The Utility Company shall furnish these auxiliary items, unless the Contract indicates these items are to be furnished by the Contractor as a part of the bridge construction.
3. The Utility or its subcontractor constructing the utility facility shall install hanger rods, pipe rollers, and other attachments necessary for the support of the utility facility as indicated on the
Plans. The Utility Company shall furnish these attachments at no cost to the Department or the prime contractor unless otherwise specified. This work shall also include:

a. Caulking the openings around the utility where it passes through endwalls to prevent the passage of undesirable materials.

b. Painting the exposed portions of utility supports unless such supports are corrosion resistant. Painting shall be done in accordance with the applicable portions of Section 535, unless otherwise specified.

4. The sequence of bridge construction work may be set forth in the Plans and/or the Special Provisions and will show at what stage of the Work a utility company will be allowed to make the utility installation. Further, all or any portion of The Work under Subsection 107.21.H.3 may be included in the bridge Contract by the Plans and/or the Special Provisions.

5. Any damage to the bridge structure caused by the utility installation shall be repaired to the satisfaction of the Engineer at the expense of the Utility or its subcontractor installing the utility facility.

I. Clearances

The Plans provide for at least minimum clearance of utilities as required by the National Electrical Safety Code, U.S. Department of Commerce, and National Bureau of Standards. Any additional clearance the Contractor may desire or require in performing The Work shall be arranged by the Contractor with the utility company. The Department will pay no extra compensation for such additional clearances.

J. Utility Relocation Progress Schedule

The purpose of the Utility Adjustment Schedule is to provide the Contractor with the pertinent information, including any utility staging required, dependent activities, or joint-use coordination that is required for the creation of a feasible progress schedule. A suitable Utility Adjustment Schedule form is available from the Department for the WUCS to circulate to utility companies for any proposed project construction staging or should a utility company not duly file a Utility Adjustment Schedule to the Department during the preconstruction phase of the project. The WUCS shall submit a Utility Relocation Progress Schedule showing together the Progress Schedule Chart referenced in Section 108.03 and the proposed Utility Adjustment Schedules from all utility companies to the Engineer for review and approval. Copies of existing Utility Adjustment Schedules with utility companies having facilities on this project will be made available at the Georgia Department of Transportation, Office of Construction Bidding Administration, located at One Georgia Center, 600 West Peachtree Street, NW, Atlanta, GA 30308, for examination by the Contractor. The Utility Adjustment Schedules are available online at: http://www.dot.ga.gov/doingbusiness/contractors/Pages/default.aspx

K. Compensation

There will be no separate measurement or payment for this Work. The cost associated with this Work shall be included in the overall Bid submitted.

107.22 Hazardous and/or Toxic Waste

When the Contractor’s operations encounter or expose any abnormal condition which may indicate the presence of a hazardous and/or toxic waste, such operations shall be discontinued in the vicinity of the abnormal condition and the
Engineer shall be notified immediately. The presence of barrels, discolored earth, metal, wood, or visible fumes, abnormal odors, excessively hot earth, smoke, or anything else which appears abnormal may be indicators of hazardous and/or toxic wastes and shall be treated with extraordinary caution as they are evidence of abnormal conditions.

The Contractor’s operations shall not resume until so directed by the Engineer.

Disposition of the hazardous and/or toxic waste will be made in accordance with the requirements and regulations of the Department of Human Resources and the Department of Natural Resources. Where the Contractor performs work necessary to dispose of hazardous and/or toxic waste, payment will be made at the unit prices for pay items included in the contract which are applicable to such work or, where the contract does not include such pay items, payment will be as provided in Subsection 109.05, “Extra Work.”

107.23 Environmental Considerations

A. Construction

Erosion control measures shall be installed, to the greatest practical extent, prior to clearing and grubbing. Particular care shall be exercised along stream buffers, wetlands, open waters and other sensitive areas to ensure that these areas are not adversely affected.

Construction equipment shall not cross streams, rivers, or other waterways except at temporary stream crossing structures shown on the plans or as allowed by permit.

Construction activities within wetland areas are prohibited except for those within the construction limits as shown on the Plans and as specified in Subsection 107.23.E.

All sediment control devices (except sediment basins) installed on a project shall, as a minimum, be cleaned of sediment when one half the capacity, by height, depth or volume, has been reached. Sediment basins shall be cleaned of sediment when one-third the capacity by volume has been reached.

B. Bridge Construction Over Waterways

Construction waste or debris, from bridge construction or demolition, shall be prevented from being allowed to fall or be placed into wetlands, streams, rivers or lakes.

Excavation, dewatering, and cleaning of cofferdams shall be performed in such a manner as to prevent siltation. Pumping from cofferdams to a settling basin or a containment unit will be required if deemed necessary by the Engineer.

Operations required within rivers or streams, i.e. jetting or spudding, shall be performed within silt containment areas, cofferdams, silt fence, sediment barriers or other devices to minimize migration of silt off the project.

C. Environmental Clearance of Local Material or Disposal Sites

Specific written environmental approval from the Engineer will be required for any local material or disposal sites not included in the Plans. No work shall be started at any potential local material or waste site not shown on the plans prior to receiving said environmental approval from the Engineer. Local material sites are defined as borrow pits, common borrow, base, embankment, sand clay base, topsoil base, soil cement base, granular embankment, asphalt sand, maintenance pits, or stockpiled borrow sources. Disposals sites, as defined in Standard Specification 201.3.05.E.3, may be defined as excess material, common fill, or inert waste.
The Contractor may obtain environmental approval on a site with one of two methods: 1) GDOT provided environmental surveys or 2) environmental surveys obtained by the Contractor at no cost to the Department. The Contractor must choose one method for review and approvals, which will apply to all sites required for a given project, and submit an Environmental Review Notification indicating their chosen method.

1. If the Contractor chooses to obtain their own environmental surveys, they shall be conducted by a consultant(s) prequalified to work with the Department in the following area classes: 1.06(b) – History; 1.06(e) – Ecology; and 1.06(f) – Archaeology. Background research and field methods shall be conducted in accordance with the Office of Environmental Services Environmental Procedures Manual, with documentation in an Environmental Survey Results Memorandum (template available from the Office of Environmental Services).

2. If the Contractor requests that GDOT conduct required environmental surveys, an Environmental Survey Request shall be submitted for each site (template available from the Office of Environmental Services).

Upon receipt of an Environmental Survey Request, the Office of Environmental Services shall provide environmental approval or denial within thirty (30) business days. Upon receipt of an Environmental Survey Results Memorandum, the Office of Environmental Services shall provide environmental approval or denial within ten (10) business days. The Department will not accept requests for review of sites before a Notice to Proceed is issued. Incomplete Survey Requests, surveys that are not conducted by a GDOT prequalified consultant, or surveys that do not meet the required level of field effort or documentation, will be denied by GDOT OES and may require resubmittal.

The Engineer will inform the Contractor in writing as to the approval or denial of environmental clearance. Approvals may be provided upon condition that an Environmentally Sensitive Area (ESA) be designated within or adjacent to the site prior to use. All ESA stipulations shall be adhered to in accordance with Standard Specification 107.23.F. If a site is denied, the Contractor may, at no expense to the Department, seek to obtain permits or pursue other remedies that might otherwise render the site(s) acceptable, if available. Any and all changes to proposed sites or their associated haul roads that are not included within the original Environmental Survey Request or Environmental Survey Results Memorandum, including expansion, utilization for purposes other than those indicated in the original submittal, etc. must be submitted for further environmental review and approval prior to use.

Sites included in the Plans have environmental clearance and shall be used only for the purpose(s) specified in the Plans or other contract documents. Should the Contractor wish to expand or utilize said sites for any purpose other than that provided for in the Plans or other contract documents, specific written environmental clearance as noted above shall be obtained.

D. Control of Pollutants

Pollutants or potentially hazardous materials, such as fuels, lubricants, lead paint, chemicals or batteries, shall be transported, stored, and used in a manner to prevent leakage or spillage into the environment. The Contractor shall also be responsible for proper and legal disposal of all such materials.

Equipment, especially concrete or asphalt trucks, shall not be washed or cleaned-out on the Project except in areas where unused product contaminants can be prevented from entering waterways.

E. Temporary Work in Wetlands Outside of the Construction Limits within the Right-of-Way and
Easement Areas

Temporary work in wetlands (that are not delineated with orange barrier fence) will be subject to the following requirements:

1. Temporary work in wetlands shall be accomplished by using temporary structures, timber, concrete, soil with geotextile fabric, or other suitable matting. The area shall not be grubbed.
2. Soil matting shall be protected from erosion in accordance with the Specifications.
3. Whenever temporary work is required in Saltwater Marsh Wetlands, all temporary structures and/or matting shall be removed in their entirety prior to Final Acceptance of the Project. Matted and compressed soils shall be backfilled to their original ground elevation with material meeting the requirements of Section 212 – Granular Embankment.
4. Whenever temporary work is required in Freshwater Wetlands, all temporary structures and/or matting (exclusive of soil matting to be retained in the final roadway section) shall be removed in their entirety prior to Final Acceptance of the Project. Once the temporary materials have been removed, the area shall be covered by Excelsior or Straw blankets according to Section 713 of the Specifications. The grassing and ground preparation referenced in Subsection 713.3.03, “Preparation”, will not be applicable to this Work.
5. The Engineer shall be notified so that a field inspection may be conducted to certify that the temporary materials were properly removed and that the area was properly restored. The Contractor shall be responsible for any corrective action required to complete this Work.
6. There will be no separate measurement or payment for this Work. The cost associated with this work shall be included in the overall Bid submitted.

F. Environmentally Sensitive Areas

Some archaeological sites, historic sites, wetlands, streams, stream and pond buffers, open waters and protected animal and plant species habitat within the existing/required Right-of-Way and easement areas may be designated as ENVIRONMENTALLY SENSITIVE AREAS (ESAs). These areas are shown on the applicable Plan sheets and labeled “ESA” (e.g. ESA – Historical Boundary, ESA – Wetland Boundary). The Department may require that some ESAs or portions thereof be delineated with orange barrier fence. The Contractor shall install, maintain, and replace as necessary orange barrier fence at ESAs as delineated in the Plan sheets.

The Contractor shall not enter, disturb, or perform any construction related activities, other than those shown on the approved plan sheets within areas designated as ESAs including ESAs or portions thereof not delineated with orange barrier fence. This includes but is not limited to the following construction activities: clearing and grubbing; borrowing; wasting; grading; filling; staging/stockpiling; vehicular use and parking; sediment basin placement; trailer placement; and equipment cleaning and storage. Also, all archaeological sites, historic sites, wetlands, streams, stream and pond buffers, open waters, and protected
animal and plant species habitat that extend beyond the limits of existing/required Right-of-Way and easement areas shall be considered ESAs and the Contractor shall not perform any construction related activities (such as those listed above) within these areas or make agreements with property owners to occupy these areas for construction related activities (such as those listed above). The Contractor shall make all construction employees aware of the location(s) of each ESA and the requirement to not enter or otherwise disturb these areas.

If the Contractor is found to have entered an ESA, either within or outside the project area, for any purpose not specifically shown on the approved plan sheets, the Department may, at its discretion, issue a stop work order for all activities on the project except erosion control and traffic control until such time as all equipment and other items are removed and the ESA is restored to its original condition.

However, should damage to an ESA occur as a result of the Contractor’s action in violation of this section, and notwithstanding any subsequent correction by the Contractor, the Contractor shall be liable for any cost arising from such action, including but not limited to, the cost of repair, remediation of any fines, or mitigation fees assessed against the Department by another government entity.

G. Protection of Migratory Birds and Bats

The following conditions are intended as a minimum to protect migratory birds and bats during construction activities.

1. Project personnel shall be advised about the potential presence and appearance of federally protected migratory birds, including the barn swallow (Hirundo rustica), cliff swallow (Petrochelidon pyrrhonota), and eastern phoebe (Sayornis phoebe), and that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting these species in violation of the Migratory Bird Treaty Act of 1918. The law protects adults, fledglings, nestlings, eggs, and active nests. All bats are protected under Georgia state law (Official Code of Georgia § 27-1-28), with some species protected under the federal Endangered Species Act of 1973. Pictures and habitat information shall be posted in a conspicuous location in the Project field office until such time that construction has been completed and time charges have stopped.

2. The demolition of existing bridge and culvert, the extension of existing culvert, and bridge maintenance activities on the underside of the bridge deck shall take place outside of the breeding and nesting season of phoebes, swallows and other migratory birds, which begins April 1 and extends through August 31, unless exclusionary barriers are put in place to prevent birds from nesting. For bridges, exclusionary barriers may be made of plastic, canvas or other materials proposed by the Contractor and approved by the State Environmental Administrator prior to installation. For box culverts, exclusionary barriers may be overlapping strips of flexible plastic (also called “PVC Strip Doors” or “Strip Curtains”) or an alternate material proposed by the Contractor and approved by the State Environmental Administrator prior to installation.
Exclusionary barriers must be installed on the bridge(s) and/or box culvert(s) prior to March 1 or after August 31, but in no time in between this period. Exclusionary barriers are not a guaranteed method of preventing migratory birds from nesting beneath bridges and work schedules shall take into account the possibility that barriers will not be successful. If exclusionary barriers are to be used, these steps shall be followed:

a. The Project ecologist shall be notified by phone (404) 631-1100 of the decision to install exclusionary barriers and the date of the proposed installation prior to the installation of any exclusionary devices.

b. The structure(s) shall be checked for nests prior to the placement of exclusionary barriers. If nests are present, they shall be inspected to ensure that eggs or birds are not present. If the nests are found to be occupied, construction activities associated with the bridge shall be postponed until after August 31 when the breeding season is complete.

c. For any box culvert(s) being replaced, exclusionary barriers shall be installed on both the inlet and outlet openings. For any box culvert(s) being extended, exclusionary barriers shall be placed on the opening(s) (inlet and/or outlet) where work is taking place. For bridge(s) being removed, barriers shall be installed along the full length of the bridge(s). In all cases, barriers shall be installed prior to March 1 and left in place until August 31 or until the culvert removal, culvert extension, or bridge demolition is complete. If the exclusionary barriers fail to prevent nesting (i.e., birds are able to bypass barriers and build nests), construction activities associated with the bridge shall be postponed until after August 31.

d. During construction activities, exclusionary barriers shall be inspected daily for holes or other defects that impair its ability to exclude migratory birds from nesting beneath the bridge. Any holes or defects shall be repaired immediately.

e. Entanglement and/or entrapment of barn swallows, cliff swallows, and eastern phoebes in exclusionary netting constitutes harm to migratory birds. Any entanglement and/or entrapment of migratory birds shall be reported immediately to the Project Engineer, who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101.

3. Migratory birds may nest in other structures or natural features that will be impacted by construction activities. If active nests containing eggs are encountered within the footprint of construction activities, the finding shall be reported immediately to the Project Engineer, who in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All activity within 50 feet of active nests shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.
4. When working on bridges and culverts, sightings of bat species shall be reported immediately to the Project Engineer who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All construction activity on the structure shall cease pending consultation by the Department with the U.S. Fish and Wildlife Service and/or the Georgia Department of Natural Resources and/or the lead Federal Agency. The Department will inform the Contractor of any changes to the project.

5. In the event any incident occurs that causes harm or injury to migratory birds during construction activities, the incident shall be reported immediately to the Project Engineer who in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All activity shall cease pending consultation by the Department with the U.S. Fish and Wildlife Service and the lead Federal Agency.

6. Within 30 days of the completion of construction and the stopping of time charges, a report shall be provided to the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services, 600 West Peachtree Street NW, Atlanta, Georgia 30308. GDOT in turn will provide copies of the report to the U.S. Fish and Wildlife Service, the Georgia Department of Natural Resources Wildlife Resources Division, and the lead Federal Agency. The following information will be included in the report:
   a. Contractor name and address.
   b. Name and title of report preparer.
   c. GDOT Project Identification (PI) number.
   d. County(s) in which project is located.
   e. Project description.
   f. Construction start and end dates.
   g. Date GDOT was notified of intent to install barrier(s) per # 107.23G.2.a.
   h. Number and type(s) of structures on which exclusion barriers were installed.
   i. Type(s) of exclusion material used on each structure.
   j. Start and end date(s) of installation of exclusionary barrier on each structure.
   k. Start and end date(s) of removal of exclusionary barrier from each structure.
   l. Photographs of each structure before and after exclusionary barrier installation.
m. Statement regarding whether the exclusionary barrier was effective in deterring bird use of the structure during construction.

n. Description of any incidents causing harm or injury to migratory birds during construction. This should include incidents that were reported as required under 107.23G.5.

o. Description of any sightings of bat species when working on bridges and culverts. This should include incidents that were reported as required under 107.23G.4.

7. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.24 Closing of Roadways without On-Site Detours

When existing roadways are to be closed to through traffic and on-site detours are not provided, the Contractor shall submit a written notice to the Engineer for approval 14 days prior to the closure of the existing roadways.

After receiving approval from the Engineer for the closure, the Contractor shall install signs at each closure site, in accordance with the MUTCD, to inform the traveling public of the proposed closure, including the date of closure. The sign shall be placed 5 days prior to the closure, at the direction of the Engineer.

Prior to the closure, the Area Engineer will inform local government officials and agencies, local news media, and the DOT Public Information Office of the proposed closure of the roadways.

107.25 Disruption to Residential and Commercial Property

The Contractor shall plan, coordinate, and prosecute the work such that disruption to personal property and business is held to a practical minimum.

All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris is removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described herein shall be in addition to that required by Subsection 104.07 “Final Cleaning Up” and Subsection 105.16 “Final Inspection and Acceptance.”
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 6-2
UTILITY MEMORANDUMS OF UNDERSTANDING

City of Jefferson Public Utilities Department
Comcast
Georgia Power Distribution
Jackson County Water & Sewer Authority
Jackson EMC
Liberty Utilities – Gas
Southern Company Gas
Windstream
Georgia DOT Project: I-85 N Widening from SR 53 to US 129/SR11
GDOT P.I. 0013545

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
City of Jefferson Public Utilities Department (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures, and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER’S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
X Domestic water mains and distribution lines and associated appurtenances
X Sanitary Sewer facilities and/or Storm Drainage System
Electrical Distribution (overhead and underground) wires, poles, etc.
Electrical Transmission (overhead and underground) wires, poles, etc.
Natural Gas Distribution Facilities (underground)
Natural Gas Transmission Facilities (underground)
Petroleum Pipeline (underground)
Telecommunications facilities and equipment
Cable TV facilities
Street Lighting
Internet Data Service
Other Facilities (Description)
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

None

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design. (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

Design _____
Construction _X_

Option 2: OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design _X_
Construction _____ If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None  _X_

Excluded Items __________________________________________

_______________________________________________________

Comments: _____________________________________________

_______________________________________________________

3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design ______
Construction ______

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered
with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER’s Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT’S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT’S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT’S Utility Accommodations Policy and Standards Manual (UAM), current edition” and any agreements in effect without further cost to the DEPARTMENT or it’s CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT’S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

   a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

   b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of
such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

(Signature)

(Date)

PUBLIC UTILITIES DIRECTOR

(Title)

APPROVED FOR THE DEPARTMENT BY:

(Signature)

(Date)

STATE UTILITIES ADMINISTRATOR
Pre-Approved Contractor List

Company Name: Griffin Brothers, Inc.
Address: 103 Griffin Drive, Maysville, GA 30558
Phone: 706 677 3164
Contact Person: Thomas Brown
E-Mail: thomas@griffinbrothersinc.com

Company Name: J&K Utilities
Address: P.O. Box 35, Jefferson, GA 30549
Phone: 706 367 9494
Contact Person: Keith Hayes
E-Mail: keith@keithhayesconstruction.com

Company Name: Mic-South Construction, Inc
Address: 7057 Maddox Road, Lithonia, GA 30058
Phone: 770 484 9600
Contact Person: Ber. Weaver
E-Mail: Ber@Mid-SouthBuildersInc.com

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:
DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Comcast (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER’S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:

☐ Domestic water mains and distribution lines and associated appurtenances
☐ Sanitary Sewer facilities and/or Storm Drainage System
☐ Electrical Distribution (overhead and underground) wires, poles, etc.
☐ Electrical Transmission (overhead and underground) wires, poles, etc.
☐ Natural Gas Distribution Facilities (underground)
☐ Natural Gas Transmission Facilities (underground)
☐ Petroleum Pipeline (underground)
☐ Telecommunications facilities and equipment
☐ Cable TV facilities
☐ Street Lighting
☐ Internet Data Service
☐ Other Facilities (Description)
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

None

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design
Construction ___

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

Design
Construction ___

Option 2: OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design
Construction ___ If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None  X

Excluded Items ____________________________________________________________

Comments:________________________________________________________________

3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design  X

Construction

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However, the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract. If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered
with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER’s Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT’S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT’S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT’S Utility Accommodations Policy and Standards Manual (UAM), current edition” and any agreements in effect without further cost to the DEPARTMENT or its CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT’S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

   a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

   b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of
such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

(Signature)  
(Date)

CONSTRUCTION COORDINATOR

(Title)

APPROVED FOR THE DEPARTMENT BY:

(Signature)  
(Date)

STATE UTILITIES ADMINISTRATOR
Pre-Approved Contractor List

Company Name: CABLE EAST
Address: 1940 STATHAM DR
        STATHAM GA, 30666
Phone: 678 753 1410
Contact Person: MARK PREZIOSO
E-Mail: mark.prezioso@cable-east.com

Company Name: COMTRAC SERVICES
Address Comtrac Services, Inc.
        2250 Lithonia Industrial Blvd.
        Lithonia, GA 30058
Phone: 770 934 9595
Contact Person: JOHN TAYLOR
E-Mail: john.taylor@comtracinc.com

Company Name: QUANTA
Address: 1695 FARMER RD
        CONYERS GA, 30012
Phone: 678-618-1213
Contact Person: RICK INSCOYE
E-Mail: rinscoe@quantatelcom.com

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:
DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Georgia Power Distribution (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____ Domestic water mains and distribution lines and associated appurtenances
_____ Sanitary Sewer facilities and/or Storm Drainage System
_____ X Electrical Distribution (overhead and underground) wires, poles, etc.
_____ Electrical Transmission (overhead and underground) wires, poles, etc.
_____ Natural Gas Distribution Facilities (underground)
_____ Natural Gas Transmission Facilities (underground)
_____ Petroleum Pipeline (underground)
_____ Telecommunications facilities and equipment
_____ Cable TV facilities
_____ Street Lighting
_____ Internet Data Service
_____ Other Facilities (Description) ________________________________
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

N/A

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design
Construction

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

Design X
Construction X

Option 2: OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design
Construction If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None  x  

Excluded Items

______________________________

______________________________

Comments:

______________________________

______________________________

______________________________

3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design  ________

Construction  ________

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However, the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER’s Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT’S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT’S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT’S Utility Accommodations Policy and Standards Manual (UAM), current edition and any agreements in effect without further cost to the DEPARTMENT or it’s CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT’S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

   a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

   b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.
The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Mark [Signature]  
(Signature)  
Project Manager  
(Title)  
November 20, 2019  
(Date)

APPROVED FOR THE DEPARTMENT BY:

[Signature]  
(Signature)  
12/13/19  
(Date)

STATE UTILITIES ADMINISTRATOR
Pre-Approved Contractor List

Company Name: See attachment
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name: See Attachment
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:
# GEORGIA POWER COMPANY

## Design Contractors

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact</th>
<th>Phone Number</th>
<th>Email</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enercon</td>
<td>Bryan Phillips</td>
<td>(813) 418-2263</td>
<td></td>
<td>1954 Airport Road, Suite 214, Chamblee, GA 30341</td>
</tr>
<tr>
<td>McLean Engineering</td>
<td>Sean Knowles</td>
<td>(404) 520-0288</td>
<td><a href="mailto:sean.knowles@mcleanengineering.com">sean.knowles@mcleanengineering.com</a></td>
<td></td>
</tr>
<tr>
<td>Storm Services</td>
<td>David Dent</td>
<td>(678) 726-7551</td>
<td><a href="mailto:david@stormsl.com">david@stormsl.com</a></td>
<td>452 Wateroak Lane, Augusta, GA 30907</td>
</tr>
<tr>
<td>Pike Engineering</td>
<td>Justin Simmons</td>
<td>336-448-8564</td>
<td><a href="mailto:jrsimmons@ucsen.com">jrsimmons@ucsen.com</a></td>
<td>200 Cobb Pkwy N, Ste 428, Marietta, GA 30062</td>
</tr>
</tbody>
</table>

## Construction Contractors

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact</th>
<th>Phone Number</th>
<th>Email</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pike Electric</td>
<td>Jim McCloud</td>
<td>770-601-2358</td>
<td><a href="mailto:JMcCloud@pike.com">JMcCloud@pike.com</a></td>
<td>P.O. Box 868,100 Pike Way, Mount Airy, NC 27030</td>
</tr>
<tr>
<td>Service Electric</td>
<td>Brian Imsand</td>
<td>(423) 266-3161</td>
<td><a href="mailto:BImsand@serviceelectricco.com">BImsand@serviceelectricco.com</a></td>
<td>1631 East 25th Street, PO Box 3656, Chattanooga, TN 37404</td>
</tr>
<tr>
<td>Sumter Utilities</td>
<td>Mikell Murray</td>
<td>843-725-9521</td>
<td><a href="mailto:jmmurray@suimail.com">jmmurray@suimail.com</a></td>
<td>1151 North Pike West, Sumter, SC 29151</td>
</tr>
<tr>
<td>Utilicon</td>
<td>Jimmy Glover</td>
<td>(478) 348-3233</td>
<td><a href="mailto:j.glover@utilicon.net">j.glover@utilicon.net</a></td>
<td>13275 Highway 231, Davisboro, Ga 31018</td>
</tr>
<tr>
<td>Volt Power</td>
<td>A.C. Crouch</td>
<td>(256) 502-3072</td>
<td>(256) 303-2484</td>
<td>1465 Lake City Ind Ct, Morrow, GA 30260</td>
</tr>
<tr>
<td></td>
<td>Allen Bass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Williams Electric</td>
<td>Rick Falls</td>
<td>(704) 484-1881</td>
<td><a href="mailto:rick.falls@4weco.com">rick.falls@4weco.com</a></td>
<td>P.O. Box 2367 Shelby, NC 28151</td>
</tr>
</tbody>
</table>

12/12/2019
EXHIBIT A
UTILITY OWNER PRE-APPROVED CONTRACTOR/CONSULTANT LIST

Pre-Approved Contractor List

Company Name: Irby Construction
Address: 817 South State Street
Phone: 601-709-4729
Contact Person: John Hopper
E-Mail: hopper@irbyconst.com

Company Name: Service Electric
Address: 1631 East 25th Street, Chattanooga, TN 37404
Phone: 423-265-3161
Contact Person: Jody Shea
E-Mail: jshea@serviceelectricco.com

Company Name: Pike Electric
Address: 100 Pike Way, Mount Airy, NC 27030
Phone: 336-789-2171
Contact Person: Todd Badgett
E-Mail: tbadgett@pike.com

Company Name: Sumter Utilities
Address: 1151 North Pike West, Sumter, SC 29153
Phone: 803-469-8585
Contact Person: Colin Chalup
E-Mail: cchalupa@suimail.com

Company Name: Utilicon
Address: 13275 Highway 231, Davisboro, GA 31018
Phone: 478-348-3233
Contact Person: Joan Glover
E-Mail: joan.glover@utilicon.net

Company Name: L.E. Myers
Address: 401 Chestnut Street, Suite 120; Chattanooga, TN 37402
Phone: 423-265-4441 x 4133
Contact Person: Danny Gessman
E-Mail: dgessman@myrgroup.com
EXHIBIT A
UTILITY OWNER PRE-APPROVED CONTRACTOR/CONSULTANT LIST

Pre-Approved Design Consultant List

Company: Apogee Engineers, LLC
Address: 4856 Anderson Road
Orlando, Florida 32812
Contact Person: David H. Seligson
Phone: 407-658-7590
Email: David.Seligson@ApogeeEngineers.com

Company: Mesa Associates
Address: 629 Market Street, Suite 200
Chattanooga, TN 37402
Contact Person: Kazem Shomali
Phone: 423-424-7345
Email: kshomali@mesainc.com

Company Name: Power Delivery Solutions
Address: 100 Commerce Drive, Suite 201
Newark, DE 19713
Contact Person: Dean Sevy
Phone: 770-617-6921
Email: Dsevy@powerdsllc.com

Company: S. Nelson & Associates
Address: 110 Evans Mill Drive Suite 204
Dallas, GA 30157
Contact Person: Graham Smith
Phone: 770-841-8242
Email: GSMITH@S-NELSON.COM
DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Jackson County Water & Sewer Authority (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights (“Prior Rights”) at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER’S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department’s roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
   __x__ Domestic water mains and distribution lines and associated appurtenances
   __x__ Sanitary Sewer facilities and/or Storm Drainage System
   _____ Electrical Distribution (overhead and underground) wires, poles, etc.
   _____ Electrical Transmission (overhead and underground) wires, poles, etc.
   _____ Natural Gas Distribution Facilities (underground)
   _____ Natural Gas Transmission Facilities (underground)
   _____ Petroleum Pipeline (underground)
   _____ Telecommunications facilities and equipment
   _____ Cable TV facilities
   _____ Street Lighting
   _____ Internet Data Service
   _____ Other Facilities (Description) ___________________________________________
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT.
Insert here or attach a detailed description of proposed new additional utility installations:

None

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

Design ______ X____
Construction ______ X____

Option 2: OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design ______
Construction ______ If both are checked, please leave page 6 blank.

PI # 0013545
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None __x__

Excluded Items


Comments:


3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design

Construction ___

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract. If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

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4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER’s Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT’S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT’S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT’S Utility Accommodations Policy and Standards Manual (UAM), current edition” and any agreements in effect without further cost to the DEPARTMENT or its CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT’S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelleting and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

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   b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.
The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

[Signature]

[Title]

APPROVED FOR THE DEPARTMENT BY:

[Signature]

[Date]
Pre-Approved Contractor List

Company Name: Universal Underground  
Address: 40 Auburn Park Dr, Auburn, GA 30011  
Phone: (470) 335-7852  
Contact Person: Barbara Roberts  
E-Mail: barbara.roberts@universalundergroundus.com

Company Name: Simpson Trucking & Grading Co  
Address: 1364 Candler Rd, Gainesville, GA 30507  
Phone: (770) 536-4731  
Contact Person: Buddy Phelan  
E-Mail: bphelan@simpsontrucking.com

Company Name: Mid-South Builders, Inc.  
Address: 7057 Maddox Rd. P.O. Box 878 Lithonia, GA 30058  
Phone: 770-484-9600  
Contact Person: Ben Weaver  
E-Mail: ben@mid-southbuildersinc.com

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name: Engineering management Inc.  
Address: 303 Swanson Dr. Lawrenceville, GA 30043  
Phone: 770-962-1387  
Contact Person: Chip McLaughley  
E-Mail: chipm@eminc.biz

Company Name: Precision Planning Inc.  
Address: 802 E Spring St # C, Monroe, GA 30655  
Phone: (770) 267-8800  
Contact Person: Kurt Mueller  
E-Mail: 583km@ppi.us

Company Name: Turnipseed Engineers  
Address: 2255 Cumberland Pkwy SE # 400A, Atlanta, GA 30339  
Phone: (770) 333-0700  
Contact Person: Ken Bryan  
E-Mail: kbryan@gbtengineers.com
DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Jackson EMC (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
- Domestic water mains and distribution lines and associated appurtenances
- Sanitary Sewer facilities and/or Storm Drainage System
- Electrical Distribution (overhead and underground) wires, poles, etc.
- Electrical Transmission (overhead and underground) wires, poles, etc.
- Natural Gas Distribution Facilities (underground)
- Natural Gas Transmission Facilities (underground)
- Petroleum Pipeline (underground)
- Telecommunications facilities and equipment
- Cable TV facilities
- Street Lighting
- Internet Data Service
- Other Facilities (Description)
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design  
Construction  

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

Design  
Construction  

Option 2: OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design  
Construction  

If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None ______

Excluded Items


Comments:


3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design    X  
Construction   

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However, the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract. If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimates for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered
with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition” and any agreements in effect without further cost to the DEPARTMENT or it’s CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of
such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

[Signature]

11-15-19
(Date)

[Title]

APPROVED FOR THE DEPARTMENT BY:

[Signature]

12/3/19
(Date)

STATE UTILITIES ADMINISTRATOR
Pre-Approved Contractor List

Company Name: Pike Electric - Overhead Contractors
Address: P.O. Box 858, 100 Pike Way, Mount Airy, North Carolina 27030
Phone: 770-601-2363
Contact Person: Darrell Harrison
E-Mail:

Company Name: Utility Lines Construction Services, Inc.
Address: Region 110.276 First Street, Forest Park, GA 30297
Phone: (Cell) 404-472-4601, 770-530-5873
Contact Person: Jamie Caldwell
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Note:
Jackson EMC only has these two Overhead contractors under contract.

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:
DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT) and
Liberty Utilities - Gas (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights (“Prior Rights”) at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER’S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:

- [ ] Domestic water mains and distribution lines and associated appurtenances
- [ ] Sanitary Sewer facilities and/or Storm Drainage System
- [ ] Electrical Distribution (overhead and underground) wires, poles, etc.
- [ ] Electrical Transmission (overhead and underground) wires, poles, etc.
- [ ] Natural Gas Distribution Facilities (underground)
- [x] Natural Gas Transmission Facilities (underground)
- [ ] Petroleum Pipeline (underground)
- [ ] Telecommunications facilities and equipment
- [ ] Cable TV facilities
- [ ] Street Lighting
- [ ] Internet Data Service
- [ ] Other Facilities (Description) _______________________________
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT.
Insert here or attach a detailed description of proposed new additional utility installations:

____________________________________________________________________________________
____________________________________________________________________________________

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design    _____
Construction _____

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

Design    _____
Construction ___X__

Option 2: OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design    _____
Construction ____

If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Comments: We are currently in the process of replacing the main crossing of I-85 in Jackson County (two high pressure steel pipelines). We should be completed by Fall 2020. It is our expectation that we will be at sufficient depth to minimize any potential conflict with the proposed widening. We do have a crossing within the SR 332 right of way that based on our conversations with a couple of the contractors does not seem to be an issue. If it does turn into an issue, we would provide the design and require the widening contractor to use one of our approved contractors.

3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):
Design  __X__
Construction _____

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract. If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT’S Utility Accommodations Policy and Standards Manual (UAM), current edition” and any agreements in effect without further cost to the DEPARTMENT or it’s CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelleting and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

   a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

   b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of
such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

(Signature)

President

(Date)

APPROVED FOR THE DEPARTMENT BY:

(Signature)

(Date)

STATE UTILITIES ADMINISTRATOR
Pre-Approved Contractor List

Company Name: Southeast Connections LLC
Address: 2720 Dogwood Dr SE, Conyers, GA 30013
Phone: 404-659-1422
Contact Person: Mike Smith
E-Mail: mike@seconnectionls.com

Company Name: Rast Construction Inc.
Address: 2901 Shannon Oxmoor Road, Birmingham, AL 35211
Phone: 205-942-6888
Contact Person: Danny Rast
E-Mail: drast@constructioncn.com

Company Name: Pride Utility
Address: 1576 Candler Road, Gainesville, Georgia 30507
Phone: 770-532-0085
Contact Person: Matt Pridemore
E-Mail: mpridemore@prdeutility.com

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name: Barge Design Solutions, Inc.
Address: 1201 Front Ave, Suite F, Columbus, GA 31901
Phone: 706-321-4590
Contact Person: David Bishop
E-Mail: david.bishop@ bargedesign.com

Company Name: Rochester and Associates, Inc.
Address: 425 Oak Street, NW, Gainesville, Georgia 30501
Phone: 678-450-5147
Contact Person: Eric M. Chini
E-Mail: emchini@rochester-assoc.com

Company Name:
Address:
Phone:
Contact Person:
E-Mail:
Georgia DOT Project: I-85 N Widening from SR 53 to US 129/SR11
GDOT P.I. 0013545

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Southern Company Gas (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

<table>
<thead>
<tr>
<th>Type of facility or facilities of OWNER:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic water mains and distribution lines and associated appurtenances</td>
</tr>
<tr>
<td>Sanitary Sewer facilities and/or Storm Drainage System</td>
</tr>
<tr>
<td>Electrical Distribution (overhead and underground) wires, poles, etc.</td>
</tr>
<tr>
<td>Electrical Transmission (overhead and underground) wires, poles, etc.</td>
</tr>
<tr>
<td>[X] Natural Gas Distribution Facilities (underground)</td>
</tr>
<tr>
<td>Natural Gas Transmission Facilities (underground)</td>
</tr>
<tr>
<td>Petroleum Pipeline (underground)</td>
</tr>
<tr>
<td>Telecommunications facilities and equipment</td>
</tr>
<tr>
<td>Cable TV facilities</td>
</tr>
<tr>
<td>Street Lighting</td>
</tr>
<tr>
<td>Internet Data Service</td>
</tr>
<tr>
<td>Other Facilities (Description)</td>
</tr>
</tbody>
</table>
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

   Design
   Construction

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’S cost. (Check to signify):

   **Option 1:** OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

   Design
   Construction

   **Option 2:** OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

   Design
   Construction

   If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None  X

Excluded Items

___________________________________________________________________________________________________

___________________________________________________________________________________________________

Comments:

___________________________________________________________________________________________________

___________________________________________________________________________________________________

3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design  X
Construction  

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered

PI # 0013545
with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of "As-Built Plans" for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved "As-Built Plans", the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of
such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

[Signature]

VP OPERATIONS

(Date)

APPROVED FOR THE DEPARTMENT BY:

[Signature]

STATE UTILITIES ADMINISTRATOR

(Date)
Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:
### Approved AGL Contractors - Contact List for GDOT Move In Contract Work

**Note:** The list below contains active and approved pipeline contractors that perform work for Atlanta Gas Light as of 12-3-19. Road Contractors should always reach out directly to Brad Beckman (bbeckman@southemco.com) and Larry Smallwood (lsmallwood@southemco.com) for the most current list of available contractors. Please note the limitations column to ensure that the Contractors you are contacting are currently approved to complete the necessary gas work for

<table>
<thead>
<tr>
<th>Limitations</th>
<th>First Name</th>
<th>Last Name</th>
<th>Company Name</th>
<th>City</th>
<th>State</th>
<th>Title</th>
<th>Work Phone</th>
<th>Wheelchair</th>
<th>Email Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>No steel pipe larger than 6&quot;</td>
<td>Lamar</td>
<td>Andrews</td>
<td>CEDS Construction</td>
<td>Cumming</td>
<td>Georgia</td>
<td>Manager</td>
<td>770-889-2361</td>
<td>16</td>
<td><a href="mailto:Lamar@cedsconstruction.com">Lamar@cedsconstruction.com</a></td>
</tr>
<tr>
<td>No steel pipe</td>
<td>Chad</td>
<td>Reelbuck</td>
<td>D. Lance Souther, Inc.</td>
<td>Cumming</td>
<td>Georgia</td>
<td>Supervisor</td>
<td>770-889-2361</td>
<td>16</td>
<td><a href="mailto:Reelbuck1@cedsconstruction.com">Reelbuck1@cedsconstruction.com</a></td>
</tr>
<tr>
<td>No steel pipe</td>
<td>Lance</td>
<td>Souther</td>
<td>Hiwassee Construction Company, Inc.</td>
<td>Calhoun</td>
<td>TN</td>
<td>Supervisor</td>
<td>(423) 622-4236</td>
<td></td>
<td>tonysoutherhiwasseeconstruction.com</td>
</tr>
<tr>
<td>No projects outside NW GA</td>
<td>Brooks</td>
<td>Ballard</td>
<td>Hiwassee Construction Company, Inc.</td>
<td>Calhoun</td>
<td>TN</td>
<td>Owner</td>
<td>423-667-0576</td>
<td></td>
<td><a href="mailto:brooksballard@southern.com">brooksballard@southern.com</a></td>
</tr>
<tr>
<td>No steel pipe. No projects outside NW GA</td>
<td>Todd</td>
<td>Newman</td>
<td>Hiwassee Construction Company, Inc.</td>
<td>Calhoun</td>
<td>TN</td>
<td>Owner</td>
<td>423-667-0576</td>
<td></td>
<td><a href="mailto:tnewman@southern.com">tnewman@southern.com</a></td>
</tr>
<tr>
<td>No plastic pipe</td>
<td>Eugene</td>
<td>McCollie</td>
<td>Hunter Utility</td>
<td>Brightwood</td>
<td>TN</td>
<td>Owner</td>
<td>423-240-5896</td>
<td></td>
<td><a href="mailto:hunterutility@dco.com">hunterutility@dco.com</a></td>
</tr>
<tr>
<td>No plastic pipe</td>
<td>John</td>
<td>Senn</td>
<td>Troy Construction, LLC</td>
<td>Commerce</td>
<td>GA</td>
<td>Vice President</td>
<td>706-336-0063</td>
<td></td>
<td><a href="mailto:jpy@troyconstruction.com">jpy@troyconstruction.com</a></td>
</tr>
<tr>
<td>No plastic pipe</td>
<td>Casey</td>
<td>Colby</td>
<td>Troy Construction, LLC</td>
<td>Commerce</td>
<td>GA</td>
<td>Selfmanagement/Project Manager</td>
<td>706-336-0063</td>
<td></td>
<td><a href="mailto:jpy@troyconstruction.com">jpy@troyconstruction.com</a></td>
</tr>
<tr>
<td>No steel pipe larger than 6&quot;</td>
<td>Tony</td>
<td>Pittman</td>
<td>Southern Pipeline, Inc.</td>
<td>Windsor</td>
<td>GA</td>
<td>Owner</td>
<td>770-839-2184</td>
<td></td>
<td><a href="mailto:tonypittman@southernpip.com">tonypittman@southernpip.com</a></td>
</tr>
<tr>
<td>No steel pipe larger than 12&quot;</td>
<td>Payton</td>
<td>Crawford</td>
<td>Pride Utility</td>
<td>Gainesville</td>
<td>GA</td>
<td>Director</td>
<td>770-532-0385</td>
<td></td>
<td><a href="mailto:paytoncrawford@prideutility.com">paytoncrawford@prideutility.com</a></td>
</tr>
<tr>
<td>No steel pipe larger than 12&quot; &amp; over 1 mile long</td>
<td>Scott</td>
<td>Gagnier</td>
<td>Pride Utility</td>
<td>Gainesville</td>
<td>GA</td>
<td>Vice President/Safety Director</td>
<td>770-532-0385</td>
<td></td>
<td><a href="mailto:scottgagnier@prideutility.com">scottgagnier@prideutility.com</a></td>
</tr>
<tr>
<td>No steel pipe larger than 12&quot; &amp; over 1 mile long</td>
<td>Matt</td>
<td>Priddemore</td>
<td>Pride Utility</td>
<td>Gainesville</td>
<td>GA</td>
<td>President</td>
<td>770-532-0385</td>
<td></td>
<td><a href="mailto:mpriddemore@prideutility.com">mpriddemore@prideutility.com</a></td>
</tr>
<tr>
<td>No steel pipe larger than 12&quot; &amp; over 1 mile long</td>
<td>Brian</td>
<td>Boyd</td>
<td>Gunter Construction Company, Inc.</td>
<td>Lawrenceville</td>
<td>GA</td>
<td>President</td>
<td>770-663-7760</td>
<td></td>
<td><a href="mailto:boyl@gunterconstruction.com">boyl@gunterconstruction.com</a></td>
</tr>
<tr>
<td>No steel pipe larger than 12&quot; &amp; over 1 mile long</td>
<td>Chad</td>
<td>Zell</td>
<td>Gunter Construction Company, Inc.</td>
<td>Lawrenceville</td>
<td>GA</td>
<td>President</td>
<td>770-663-7752</td>
<td></td>
<td><a href="mailto:czell@gunterconstruction.com">czell@gunterconstruction.com</a></td>
</tr>
<tr>
<td>No limitations</td>
<td>Scott</td>
<td>Warren</td>
<td>Southeast Connections</td>
<td>Conyers</td>
<td>GA</td>
<td>VP Operations</td>
<td>404-659-1422</td>
<td></td>
<td><a href="mailto:scottwarren@southeastconnections.com">scottwarren@southeastconnections.com</a></td>
</tr>
<tr>
<td>No steel larger than 4&quot;</td>
<td>Kyle</td>
<td>Long</td>
<td>Southeast Connections</td>
<td>Conyers</td>
<td>GA</td>
<td>Senior Vice President</td>
<td>404-659-1422</td>
<td>227</td>
<td><a href="mailto:klong@southeastconnections.com">klong@southeastconnections.com</a></td>
</tr>
<tr>
<td>No steel larger than 4&quot;</td>
<td>Walter</td>
<td>Thomas</td>
<td>Thomas Utility Contractors</td>
<td>Augusta</td>
<td>GA</td>
<td>Pres</td>
<td>706-737-2043</td>
<td></td>
<td><a href="mailto:wt@thomasutility.com">wt@thomasutility.com</a></td>
</tr>
<tr>
<td>No steel larger than 4&quot;</td>
<td>David</td>
<td>Meier</td>
<td>Thomas Utility Contractors</td>
<td>Augusta</td>
<td>GA</td>
<td>VP Operations</td>
<td>706-737-0042</td>
<td></td>
<td><a href="mailto:dmeier@thomasutility.com">dmeier@thomasutility.com</a></td>
</tr>
<tr>
<td>No limitations</td>
<td>Laura</td>
<td>Greene</td>
<td>Benten-Georgia, LLC</td>
<td>Douglasville</td>
<td>GA</td>
<td>Div Manager</td>
<td>770-942-8180</td>
<td>120</td>
<td><a href="mailto:laura@benten-georgia.com">laura@benten-georgia.com</a></td>
</tr>
<tr>
<td>No limitations</td>
<td>Scott</td>
<td>Bailey</td>
<td>Benten-Georgia, LLC</td>
<td>Douglasville</td>
<td>GA</td>
<td>Estimator</td>
<td>770-942-8180</td>
<td></td>
<td><a href="mailto:scottbailey@benten-georgia.com">scottbailey@benten-georgia.com</a></td>
</tr>
<tr>
<td>No limitations</td>
<td>Lisa</td>
<td>Bonner</td>
<td>Benten-Georgia, LLC</td>
<td>Douglasville</td>
<td>GA</td>
<td>Estimator</td>
<td>770-942-8180</td>
<td></td>
<td><a href="mailto:lb@benten-georgia.com">lb@benten-georgia.com</a></td>
</tr>
<tr>
<td>No limitations</td>
<td>Jason</td>
<td>Alford</td>
<td>Diversified Utility Services</td>
<td>MIRROR</td>
<td>GA</td>
<td>VP Operations</td>
<td>918-618-6688</td>
<td></td>
<td><a href="mailto:jasonalford@diversified.com">jasonalford@diversified.com</a></td>
</tr>
<tr>
<td>No limitations</td>
<td>Brian</td>
<td>Leavelt</td>
<td>MIRROR</td>
<td>MIRROR</td>
<td>GA</td>
<td>VP Operations</td>
<td>918-618-6688</td>
<td></td>
<td><a href="mailto:brianleavelt@diversified.com">brianleavelt@diversified.com</a></td>
</tr>
</tbody>
</table>
Georgia DOT Project: I-85 N Widening from SR 53 to US 129/SR11  
GDOT P.I. 0013545

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Windstream (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to widen and reconstruct approximately 6.7 miles of I-85 from just north of SR 53 to just north of US 129 in Jackson County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:

- Domestic water mains and distribution lines and associated appurtenances
- Sanitary Sewer facilities and/or Storm Drainage System
- Electrical Distribution (overhead and underground) wires, poles, etc.
- Electrical Transmission (overhead and underground) wires, poles, etc.
- Natural Gas Distribution Facilities (underground)
- Natural Gas Transmission Facilities (underground)
- Petroleum Pipeline (underground)
- XXX_Telecommunications facilities and equipment
- Cable TV facilities
- Street Lighting
- XXX_ Internet Data Service
- Other Facilities (Description)
2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a basis for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. Betterment costs will be the OWNER’S responsibility.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT’S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

- Design
- Construction

3B. OWNER, at the CONTRACTOR’S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT’S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT’s cost. (Check to signify):

**Option 1:** OWNER wants the work to be performed by the OWNER’s pre-approved Design Consultants and/or Contractors.

- Design
- Construction

**Option 2:** OWNER wants the DEPARTMENT’S CONTRACTOR to perform the design and/or construction. (Check to signify):

- Design
- Construction

If both are checked, please leave page 6 blank.
As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None

Excluded Items

Comments:

3C. OWNER, at OWNER’S cost, will provide the following services (Check to signify):

Design XXX
Construction XXX

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However, the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract. If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of “no conflict” to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT’s plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER’s facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER’S facilities is performed by a contractor/design consultant pre-approved/registered
with both the DEPARTMENT and the OWNER. For any work included in the contract, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER’s Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT’S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT’S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT’S Utility Accommodations Policy and Standards Manual (UAM), current edition” and any agreements in effect without further cost to the DEPARTMENT or it’s CONTRACTOR. Final acceptance of the utility relocation work is accomplished by the execution of the Utility Facility Relocation Acceptance Form. The CONTRACTOR shall provide the OWNER with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the CONTRACTOR. Upon completion of the Utility Facility Relocation Acceptance Form and the exchange of the final OWNER approved “As-Built Plans”, the OWNER will operate and maintain the installed facilities going forward based on the date of execution of the Utility Facility Relocation Acceptance Form by the DEPARTMENT.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT’S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT’s contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelleting and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled “Buy America Certificate of Compliance” is attached to this agreement as “Exhibit A.” Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of
such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater. The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

[Signature]

(Date)

[Title]

APPROVED FOR THE DEPARTMENT BY:

[Signature]

(Date)

STATE UTILITIES ADMINISTRATOR
Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Sensitivity: Internal
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 6-3

Utility Facility Relocation Acceptance Form
Utility Facility Relocation Acceptance Form

Project PI Number: 0013545
Project Number:
County(ies): Jackson
Project Description:
Utility Owner Name:

Type of Utility Facilities Installed by Contractor:

Type of Relocation Work Described Herein (Circle One): Initial Relocation or Revised

Relocation Station Limits:

General Description of Utility Facilities Installed by Contractor:

Utility Work Completion Date:

This Utility Facility Relocation Acceptance Form shall be completed by the Contractor’s Worksite Utility Coordination Supervisor (WUCS). It shall also be signed by an authorized representative of the Utility Owner and by the GDOT Project Manager upon completion and acceptance of the work described herein.

Execution of this Utility Facility Relocation Acceptance Form by the parties below provides acknowledgement that the work described above, has been visually inspected and accepted by the Utility Owner as to having been constructed in accordance with the Utility Owner approved relocation design plans and their current specifications and the requirements of the Memorandum of Understanding (MOU) as executed by the Utility Owner. Further, the Contractor’s WUCS shall provide the Utility Owner with a complete set of “As-Built Plans” for review and approval reflecting the relocation work performed by the Contractor as outlined in the Contract Specifications. Upon completion of this form and the exchange of the final Utility Owner approved “As-Built Plans”, all parties agree the Utility Owner will operate and maintain the installed facilities covered by this document going forward based on the date of execution by the GDOT Project Manager (PM). However, any items inadvertently overlooked and as identified in a subsequent utility punch list shall still be the responsibility of the Contractor to correct and provide up to date “As-Built Plans” to the Utility Owner.

Acceptance of this form by the Department does not confer legitimacy and accuracy or in any way transfers liability for errors or omissions made by the preparer.
Contractor’s WUCS:
Printed Name: ____________________________ Date: __________

Signature: ________________________________ Title: __________

Utility Owner Representative:
Printed Name: ____________________________ Date: __________

Signature: ________________________________ Title: __________

GDOT Project Manager:
Printed Name: ____________________________ Date: __________

Signature: ________________________________ Title: __________
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 11-1
DESIGN CRITERIA TABLE
## I-85 Widening from North of SR 53 to North of SR 11/US 129
### Design Criteria

<table>
<thead>
<tr>
<th>Design Element</th>
<th>I-85</th>
<th>I-85 Service Ramps</th>
<th>SR 332</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Classification</td>
<td>Interstate (Rural)</td>
<td>Ramp (Interstate) (Rural)</td>
<td>Major Collector (Rural)</td>
<td></td>
</tr>
<tr>
<td>Basic No. of Lanes</td>
<td>6(3 in each direction)</td>
<td>1</td>
<td>2</td>
<td>GDOT Design Policy Manual, Table 3.1</td>
</tr>
<tr>
<td>Design Vehicle</td>
<td>WB-67</td>
<td>WB-67</td>
<td>WB-67</td>
<td>GDOT Design Policy Manual, Table 3.1</td>
</tr>
<tr>
<td>Design Speed (MPH)</td>
<td>70</td>
<td>50*</td>
<td>55</td>
<td>AASHTO, Table 10-1, pg 10-89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C-D Road - AASHTO, pg 8-35</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DPM, Table 3.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Minimum. First curve on off-ramp is 10 mile per hour than posted Interstate speed. Design speed is then reduced based on provided deceleration length</td>
</tr>
<tr>
<td>Lane Width</td>
<td>12’</td>
<td>16’ (single lane)</td>
<td>12’</td>
<td>GDOT DPM 6.1, Table 6.5 &amp; 6.7, Figure 6.9, AASHTO, 2018, 8-3</td>
</tr>
<tr>
<td>Inside Shoulder Width</td>
<td>12’ Overall</td>
<td>8’ Overall</td>
<td>N/A</td>
<td>Freeway, C-D-AASHTO, pg 8-3</td>
</tr>
<tr>
<td></td>
<td>10’ Paved</td>
<td>4’ Paved</td>
<td></td>
<td>Ramps - AASHTO, pg 10-102</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DPM, pg 6-2, DPM Fig. 6.9</td>
</tr>
<tr>
<td>Outside Shoulder Width</td>
<td>14’ Overall</td>
<td>12’ Overall</td>
<td>8’ Overall</td>
<td>Freeway, C-D-AASHTO, pg 8-3</td>
</tr>
<tr>
<td></td>
<td>12’ Paved</td>
<td>10’ Paved</td>
<td>6.5’ Paved</td>
<td>Ramps - AASHTO, pg 10-102</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DPM, pg 6-2; DPM Fig. 6.9</td>
</tr>
<tr>
<td>Typical Roadway Cross Slope</td>
<td>*2%</td>
<td>2%</td>
<td>2%</td>
<td>AASHTO Section 8.2.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DPM, Page 6-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Cross slope may be reduced to 1.5% at existing overpass crossing in order to achieve minimum vertical clearances</td>
</tr>
<tr>
<td>Typical Inside Shoulder Cross Slope</td>
<td>*4%</td>
<td>2%</td>
<td>N/A</td>
<td>DPM, Section 6.5, Figure 6.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Cross slope may be reduced to 2% at existing overpass crossing in order to achieve minimum vertical clearances</td>
</tr>
<tr>
<td>Typical Outside Shoulder Cross Slope</td>
<td>*6%</td>
<td>2%</td>
<td>6%</td>
<td>DPM, Section 6.5, Figure 6.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><em>Cross slope may be reduced to 2</em> at existing overpass crossing in order to achieve minimum vertical clearances</td>
</tr>
<tr>
<td>E max</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>DPM, Table 4.8</td>
</tr>
</tbody>
</table>

---

**Notes:**
- The design criteria are based on the GDOT Design Policy Manual, Table 3.1.
- Design speed is reduced based on the provided deceleration length, with a minimum curve on the off-ramp being 10 miles per hour than the posted Interstate speed.
- Lane widths are determined by the GDOT DPM 6.1, Table 6.5 & 6.7, Figure 6.9, AASHTO, 2018, 8-3.
- Inside shoulder widths are based on the Freeway, C-D-AASHTO, pg 8-3, Ramps - AASHTO, pg 10-102, DPM, pg 6-2, DPM Fig. 6.9.
- Outside shoulder widths are based on the Freeway, C-D-AASHTO, pg 8-3, Ramps - AASHTO, pg 10-102, DPM, pg 6-2; DPM Fig. 6.9.
- Typical roadway cross slopes are based on AASHTO Section 8.2.4, DPM, Page 6-1. Cross slope may be reduced to 1.5% at existing overpass crossing in order to achieve minimum vertical clearances.
- Typical inside shoulder cross slopes are based on DPM, Section 6.5, Figure 6. Cross slope may be reduced to 2% at existing overpass crossing in order to achieve minimum vertical clearances.
- Typical outside shoulder cross slopes are based on DPM, Section 6.5, Figure 6.9. Cross slope may be reduced to 2* at existing overpass crossing in order to achieve minimum vertical clearances.
### Design Criteria

**I-85 Widening from North of SR 53 to North of SR 11/US 129**

<table>
<thead>
<tr>
<th>Design Element</th>
<th>I-85</th>
<th>I-85 Service Ramps</th>
<th>SR 332</th>
<th>Source</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Radius of Horizontal Curve</td>
<td>1810</td>
<td>960</td>
<td>960</td>
<td>AASHTO, 2018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10700' (RC)</td>
<td>7150' (RC)</td>
<td>7150' (RC)</td>
<td>AASHTO, 2018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14500' (NC)</td>
<td>9720' (NC)</td>
<td>9720' (NC)</td>
<td>AASHTO, 2018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14500' (NC)</td>
<td>9720' (NC)</td>
<td>9720' (NC)</td>
<td>Page 3-45</td>
<td></td>
</tr>
<tr>
<td>Minimum Length of Horizontal Curve (ft.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ greater than or equal to 5 degrees</td>
<td></td>
<td></td>
<td></td>
<td>GDOT Design Policy Manual, Section 4.2.2</td>
<td></td>
</tr>
<tr>
<td>LC = 2100°</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ greater than or equal to 5 degrees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC = 825b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ less than 5 degrees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC = 500' + 100' x (5°-Δ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Angle of Horizontal Deflection Without use of a Curve</td>
<td>14 minutes</td>
<td>20 minutes</td>
<td>20 minutes</td>
<td>GDOT Design Policy Manual, Table 4.1.</td>
<td></td>
</tr>
<tr>
<td>Stopping Sight Distance</td>
<td>730</td>
<td>495</td>
<td>495</td>
<td>AASHTO, 2018 Page 3-4, Table 3-1</td>
<td></td>
</tr>
<tr>
<td>Maximum Profile Grade (%)</td>
<td>4.00%</td>
<td>4.00%</td>
<td>7.00%</td>
<td>AASHTO, 2018 Page 10-93 and Page 8-4 Table 8-1</td>
<td>Rolling Terrain</td>
</tr>
<tr>
<td></td>
<td>0.20%</td>
<td>0.50%</td>
<td>0.50%</td>
<td>GDOT Design Policy Manual, Table 4.7</td>
<td></td>
</tr>
<tr>
<td>Minimum K Value for Crest Vertical Curve</td>
<td>247</td>
<td>114</td>
<td>114</td>
<td>AASHTO, 2018 Page 3-155, Table 3-34</td>
<td></td>
</tr>
<tr>
<td>Minimum K Value for Sag Vertical Curve</td>
<td>181</td>
<td>115</td>
<td>115</td>
<td>AASHTO, 2018 Page 3-161, Table-36</td>
<td></td>
</tr>
</tbody>
</table>
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 11-2

PAVEMENT DESIGNS
## Attachment 11-2: Pavement Designs

### Full Depth I-85 including inside shoulders, North of SR 211 to North of SR 11

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5 mm OGFC, GP 2 Only. Incl Polymer-Modified Bitum Material &amp; H Lime</td>
<td>100 lb/sy</td>
</tr>
<tr>
<td>Recycled Asph Conc 12.5 mm SMA, GP 2, Incl Polymer-Modified Bitum Matl &amp; H Lime</td>
<td>220 lb/sy</td>
</tr>
<tr>
<td>Recycled Asph Conc 19 mm Superpave, GP 1 or Gp 2, Incl Bitum Matl &amp; H Lime</td>
<td>220 lb/sy</td>
</tr>
<tr>
<td>Recycled Asph Conc 25 mm Superpave, GP 1 or Gp 2, Incl Bitum Matl &amp; H Lime</td>
<td>1,320 lb/sy</td>
</tr>
<tr>
<td>Graded Aggregate Base (GAB)</td>
<td>12 inch</td>
</tr>
</tbody>
</table>

### Overlay of I-85, North of SR 211 to North of SR 11

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
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<td>220 lb/sy</td>
</tr>
<tr>
<td>Mill Asphaltic Concrete Pavement</td>
<td>3 inch</td>
</tr>
<tr>
<td>Asphaltic Concrete (existing)</td>
<td>6.5 inch</td>
</tr>
<tr>
<td>Portland Cement Concrete (existing)</td>
<td>9.5 inch</td>
</tr>
<tr>
<td>Soil Cement Base (existing)</td>
<td>10 inch</td>
</tr>
</tbody>
</table>

### Overlay of I-85 outside shoulders, North of SR 211 to North of SR 11

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Asph Conc 12.5 mm Superpave, GP 2 Only. Incl Bitum Material &amp; H Lime</td>
<td>165 lb/sy</td>
</tr>
<tr>
<td>Mill Asphaltic Concrete Pavement</td>
<td>Variable Depth</td>
</tr>
<tr>
<td>Recycled Asphaltic Concrete Leveling</td>
<td>Variable Depth</td>
</tr>
</tbody>
</table>

### Full Depth I-85 outside shoulders for temporary traffic staging, North of SR 211 to North of SR 11

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
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<tbody>
<tr>
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</tr>
<tr>
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<td>550 lb/sy</td>
</tr>
<tr>
<td>Graded Aggregate Base (GAB)</td>
<td>10 inch</td>
</tr>
</tbody>
</table>

### I-85 Crossover

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
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</thead>
<tbody>
<tr>
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<td>220 lb/sy</td>
</tr>
<tr>
<td>Material</td>
<td>Spread Rate / Thickness</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Recycled Asph Conc 25 mm Superpave, GP 1 or Gp 2, Incl Bitum Matl &amp; H Lime</td>
<td>660 lb/sy</td>
</tr>
<tr>
<td>Graded Aggregate Base (GAB)</td>
<td>10 inch</td>
</tr>
</tbody>
</table>

### Bridge Overpass Approaches

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Asph Conc 9.5 MM Superpave, Type II, Incl Bitum Matl &amp; H Lime</td>
<td>135 lb/sy</td>
</tr>
<tr>
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</tr>
<tr>
<td>Recycled Asph Conc 25 MM Superpave, GP 1 or 2, Incl Bitum Matl &amp; H Lime</td>
<td>770 lb/sy</td>
</tr>
<tr>
<td>12 &quot; Graded Aggregate Base</td>
<td>12 inch</td>
</tr>
</tbody>
</table>

### Bridge Overpass Approaches Shoulders

<table>
<thead>
<tr>
<th>Material</th>
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</thead>
<tbody>
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</tr>
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<td>220 lb/sy</td>
</tr>
<tr>
<td>6 &quot; Graded Aggregate Base</td>
<td>6 inch</td>
</tr>
</tbody>
</table>
Georgia Department of Transportation

Technical Provisions

For

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P.I. No. 0013545

Attachment 11-2

PAVEMENT DESIGNS
### Attachment 11-2: Pavement Designs

**Full Depth I-85 including inside shoulders, North of SR 211 to North of SR 11**

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<td>1,320 lb/sy</td>
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<tr>
<td>Graded Aggregate Base (GAB)</td>
<td>12 inch</td>
</tr>
</tbody>
</table>

**Overlay of I-85, North of SR 211 to North of SR 11**

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<thead>
<tr>
<th>Material</th>
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<tr>
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</tr>
</tbody>
</table>

**Overlay of I-85 outside shoulders, North of SR 211 to North of SR 11**

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<tr>
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</thead>
<tbody>
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<td>Variable Depth</td>
</tr>
<tr>
<td>Recycled Asphaltic Concrete Leveling</td>
<td>Variable Depth</td>
</tr>
</tbody>
</table>

**Full Depth I-85 outside shoulders for temporary traffic staging, North of SR 211 to North of SR 11**

<table>
<thead>
<tr>
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<th>Spread Rate / Thickness</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>Graded Aggregate Base (GAB)</td>
<td>10 inch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I-85 Crossover</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Asph Conc 12.5 mm Superpave, GP2 Only. Incl Bitum Matl &amp; H Lime</td>
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</tr>
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<td>Recycled Asph Conc 19 mm Superpave, GP 1 or Gp 2, Incl Bitum Matl &amp; H Lime</td>
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</tr>
<tr>
<td>Material</td>
<td>Spread Rate / Thickness</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------</td>
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<tr>
<td>Recycled Asph Conc 25 mm Superpave, GP 1 or Gp 2, Incl Bitum Matl &amp; H Lime</td>
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</tr>
<tr>
<td>Graded Aggregate Base (GAB)</td>
<td>10 inch</td>
</tr>
</tbody>
</table>

### Bridge Overpass Approaches

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Asph Conc 9.5 MM Superpave, Type II, Incl Bitum Matl &amp; H Lime</td>
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</tr>
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<td>770 lb/sy</td>
</tr>
<tr>
<td>12 &quot; Graded Aggregate Base</td>
<td>12 inch</td>
</tr>
</tbody>
</table>

### Bridge Overpass Approaches Shoulders

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Rate / Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Asph Conc 9.5 MM Superpave, Type II, Incl Bitum Matl &amp; H Lime</td>
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</tr>
<tr>
<td>Recycled Asph Conc 19 MM Superpave, GP 1 or 2, Incl Bitum Matl &amp; H Lime</td>
<td>220 lb/sy</td>
</tr>
<tr>
<td>6 &quot; Graded Aggregate Base</td>
<td>6 inch</td>
</tr>
</tbody>
</table>
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 11-3

Median Barrier Location Map
Project PI #s 110610 & 0013545
Median Crossover Potential Locations

1. Hamilton Mill Rd. - Interchange Overpass - Retain
2. SR 211 - Interchange Overpass - Retain
3. SR 53 - Interchange Overpass - Retain
4. US 129 / SR 11 - Interchange Overpass - Retain
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 11-4

SPECIAL PROVISION
SECTION 815—GRADED AGGREGATE
Delete Section 815 and substitute the following:

**815.1 General Description**

This section includes the requirements for material to be used for base, subbase, or shoulder course material, and includes graded aggregate, unconsolidated limerock base, and recycled concrete base.

**815.1.01 Related References**

A. **Standard Specifications**

   Section 800—Coarse Aggregate

B. **Referenced Documents**

   AASHTO T 11
   AASHTO T 27
   AASHTO T 193
   ASTM C 295
   ASTM D 3042
   FL DOT Method FM5-515
   SOP–1
   QPL-2
   GDT 63
   EPA Method 3050/6010
   EPA Method 1311
   EPA Polarized Light Microscopy Method
   EPA Transmission Electron Microscopy Method

**815.2 Materials**

**815.2.01 Graded Aggregate**

A. **Requirements**

   1. **Type**
      
      Use graded aggregate base, subbase, or shoulder course material of uniform quality.
      
      a. Obtain the graded aggregate from an approved source or deposit that will yield a satisfactory mixture meeting all requirements of this Specification.
b. Use material that is crushed or processed as a part of the mining operations, or, mix two grades of material so that when combined in the central mix plant, the mixture meets the specifications.

c. May use material that is a blend of not more than 20 percent (max) recycled crushed concrete from known sources (see 815.2.03.A.1.a) and virgin aggregate if approved by the Office of Materials and Testing.

2. Retained on the No. 10 (2 mm) sieve
   Ensure the material retained on the No. 10 (2 mm) sieve is Class A or B aggregate that meets the requirements of Section 800.

3. Passing the No. 10 (2 mm) sieve
   Ensure material passing the No. 10 (2 mm) sieve is relatively free of detrimental substances, such as soil overburden, decomposed rock, and/or swelling silts.

4. Stabilized Mixtures
   Ensure mixtures to be stabilized react satisfactorily when mixed with Portland cement. The Engineer will specify the percentage of Portland cement to use.

5. Gradation
   Grade the graded aggregate base, subbase, or shoulder material as follows:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing By Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group I Aggregates</strong></td>
<td></td>
</tr>
<tr>
<td>2 in (50 mm)</td>
<td>100</td>
</tr>
<tr>
<td>1-1/2 in (37.5 mm)</td>
<td>95-100</td>
</tr>
<tr>
<td>3/4 in (19.0 mm)</td>
<td>60-95</td>
</tr>
<tr>
<td>No. 10 (2 mm)</td>
<td>25-50 (Note 1, 2 and 3)</td>
</tr>
<tr>
<td>No. 60 (250 µm)</td>
<td>10-35</td>
</tr>
<tr>
<td>No. 200 (75 µm)</td>
<td>7-15</td>
</tr>
<tr>
<td><strong>Group II Aggregates</strong></td>
<td></td>
</tr>
<tr>
<td>2 in (50 mm)</td>
<td>100</td>
</tr>
<tr>
<td>1-1/2 in (37.5 mm)</td>
<td>95-100</td>
</tr>
<tr>
<td>3/4 in (19 mm)</td>
<td>60-90</td>
</tr>
<tr>
<td>No. 10 (2 mm)</td>
<td>25-45 (Note 2 and 4)</td>
</tr>
<tr>
<td>No. 60 (250 µm)</td>
<td>5-30</td>
</tr>
<tr>
<td>No. 200 (75 µm)</td>
<td>4-11</td>
</tr>
</tbody>
</table>

**NOTE 1:** Group I aggregates having less than 37% passing the No. 10 (2 mm) sieve, shall have at least 9 percent passing the No. 200 (75 µm) sieve.

**NOTE 2:** For graded aggregate stabilized with Portland Cement, 30-50 percent by weight shall pass the No. 10 (2 mm) sieve. All other requirements remain the same.

**NOTE 3:** Material passing the No. 10 (2 mm) sieve shall have a sand equivalent of at least 20 for Group I aggregates.

**NOTE 4:** Material passing the No. 10 (2 mm) sieve shall have a sand equivalent of at least 28 for Group II aggregates. Sand Equivalent values as low as 20 will be acceptable provided they are attributed exclusively to rock flour and the percent passing the No. 10 (2 mm) sieve does not exceed 40.

B. Fabrication

   General Provisions 101 through 150.
C. Acceptance

Test as follows:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material that passes a No. 200 (75µm) sieve</td>
<td>AASHTO T 11</td>
</tr>
<tr>
<td>Gradation</td>
<td>AASHTO T 27</td>
</tr>
<tr>
<td>Sand Equivalent</td>
<td>GDT 63</td>
</tr>
</tbody>
</table>

D. Materials Warranty

General Provisions 101 through 150.

815.2.02 Unconsolidated Limerock Base

A. Requirements

1. Type

Use limerock base, subbase, or shoulder course material of uniform quality.

a. To ensure uniform quality, the Department may restrict approved sources to specific mining areas, mining processes at a specific mining site, or both.

b. Use a limerock base that yields a mixture to meet these Specifications.

c. Use material that is crushed or processed as a part of the mining operations, or mix two grades of material so that when combined in the central mix plant the mixture meets the specifications.

d. Use limerock base, subbase, or shoulder material that has the following characteristics:

<table>
<thead>
<tr>
<th>Limerock bearing ratio</th>
<th>At least 100.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deleterious substances</td>
<td>Do not allow chert or other extremely hard pieces that will not pass the 2 in (50 mm) sieve. Do not allow clay, sand, organics, or other materials in quantities that may damage bonding, finishing, or strength. All material passing the No. 40 (425 µm) sieve shall be non-plastic.</td>
</tr>
<tr>
<td>Carbonate content (magnesium or calcium)</td>
<td>At least 80%.</td>
</tr>
</tbody>
</table>

2. Gradation

Grade the limerock base so at least 97 percent by weight passes the 3-1/2 in (90 mm) sieve.

a. Grade the material uniformly to dust. The fine portion passing the No. 10 (2 mm) sieve shall all be dust of fracture.

b. Crush or break the limerock base, if necessary to meet size requirements before placing the material on the road.

c. Ensure materials having soundness losses of 20% or less, comply with the following gradation requirements:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing By Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot; (50 mm)</td>
<td>100</td>
</tr>
<tr>
<td>1-1/2&quot; (37.5 mm)</td>
<td>95-100</td>
</tr>
</tbody>
</table>
B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test as follows:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material that passes a No. 200 (75µm) sieve</td>
<td>AASHTO T 11</td>
</tr>
<tr>
<td>Gradation</td>
<td>AASHTO T 27</td>
</tr>
<tr>
<td>Limerock bearing ratio</td>
<td>FL DOT Method FM5-515</td>
</tr>
<tr>
<td>Petrographic analysis</td>
<td>ASTM C 295</td>
</tr>
<tr>
<td>Total carbonates (insoluble residue)</td>
<td>ASTM D 3042</td>
</tr>
</tbody>
</table>

D. Materials Warranty

General Provisions 101 through 150.

815.2.03 Recycled Concrete Base

A. Requirements

1. Sources

Use recycled concrete materials from sources approved by the Office of Materials and Testing and listed on Qualified Products List 2. The criteria for approval will be as outlined in Standard Operating Procedure No. 1, “Monitoring the Quality of Coarse and Fine Aggregates” except the raw material will be recyclable concrete as specified herein rather than a geological deposit of aggregate.

2. Type

a. Recycled Concrete Base From Known Sources

Use recycled concrete derived exclusively from Portland cement concrete pavement or structural concrete as a base, subbase, or shoulder course.

b. Recycled Concrete Base From Unknown Sources

Use recycled concrete derived from sources of demolition materials that comply with the following requirements as a base, subbase or shoulder course. Due to the condition and type of raw material used to produce this base and the resulting difficulty in producing a consistent product, refer to SOP-1 for environmental requirements and preferred production procedures.

Ensure the finished product does not exceed the regulatory limit for asbestos of 1% (based on microscopy) and the regulatory limit for lead of 5 ppm. These determinations must be made prior to shipping.

Ensure the California Bearing Ratio (CBR) of the finished product is not less than 140.

3. Gradation and Load-Bearing Capacity
Ensure the finished product meets the quality and gradation requirements of Subsection 815.2.01 for Group II aggregates, except the material finer than a #200 (75µm) sieve shall be 2 – 11%.

Ensure the California Bearing Ratio (CBR) of the finished product is not less than 140.

4. Contaminants
Ensure the recycled concrete is substantially free of foreign materials such as steel reinforcement, wood, clay balls, soils, epoxy expansion material and non-construction materials.

Note – Substantially free, in the context of this specification, shall mean concentrations of the above mentioned foreign materials individually shall not exceed 0.1 percent by weight, nor shall the total concentration of these materials exceed 0.5 percent by weight.

Ensure the finished product does not exceed the regulatory limit for asbestos of 1% (based on microscopy) and the regulatory limit for lead of 5 ppm.

Keep the following ancillary materials within these limits:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Maximum Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick</td>
<td>2</td>
</tr>
<tr>
<td>Asphaltic Concrete</td>
<td>5</td>
</tr>
<tr>
<td>Weathered Rock</td>
<td>2</td>
</tr>
<tr>
<td>Any combination of Brick, Asphaltic Concrete</td>
<td>7</td>
</tr>
<tr>
<td>or Weathered Rock</td>
<td></td>
</tr>
</tbody>
</table>

B. Fabrication
General Provisions 101 through 150.

C. Acceptance
Test as follows:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradation</td>
<td>AASHTO T 27</td>
</tr>
<tr>
<td>Material that passes a #200 (75µm) sieve</td>
<td>AASHTO T 11</td>
</tr>
<tr>
<td>Sand Equivalent</td>
<td>GDT 63</td>
</tr>
<tr>
<td>California Bearing Ratio (CBR)</td>
<td>AASHTO T 193</td>
</tr>
<tr>
<td>Petrographic Analysis</td>
<td>ASTM C 295</td>
</tr>
<tr>
<td>Total Lead</td>
<td>EPA Method 3050/6010</td>
</tr>
<tr>
<td>Toxicity Characteristic Leaching Procedure</td>
<td>EPA Method 1311</td>
</tr>
<tr>
<td>Asbestos</td>
<td>EPA Polarized Light Microscopy Method</td>
</tr>
<tr>
<td></td>
<td>Or EPA Transmission Electron Microscopy Method</td>
</tr>
</tbody>
</table>
D. Materials Warranty

General Provisions 101 through 150.
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 12-1

MS4 RESPONSIBILITIES - DESIGN-BUILD PROJECT
## Attachment 12-1

**PI 0013545**

**MS4 Responsibilities – Design-Build Project**

<table>
<thead>
<tr>
<th>2017-2022 Permit No. GAR041000 Ref.</th>
<th>Best Management Practice (BMP)</th>
<th>Activity Description</th>
<th>Design-Build Team</th>
<th>GDOT</th>
<th>PMG</th>
<th>3rd Party</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.1 Public Education</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.2.1-1 DOT website to educate the public regarding stormwater related topics (e.g. litter prevention, Adopt-A-Highway)</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
| 4.2.1-2 Training program to educate Contractors and employees conducting activities that may impact stormwater runoff | Attend periodic training related to stormwater impacts.  
- Project Managers and design level staff shall attend GDOT provided in-person courses related to Pre-Construction activities.  
- Construction level staff including but not necessarily limited to Field Superintendents and Inspectors shall attend GDOT provided in-person courses related to Construction phase activities.  
- Staff related to post-construction operations and maintenance shall attend GDOT provided in-person courses related to maintenance / pollution prevention and good housekeeping. Operations and Maintenance staff shall attend appropriate courses at least once every 5 years. | X                        |                   |      |     |          |       |
<p>| 4.2.1-3 Distribution of stormwater related educational materials to the public | Distribute stormwater related educational materials to the public. (Public Use Facilities with Indoor Information Centers Only) | X                        |                   |      |     |          |       |
| 4.2.1-4 Pet waste program in high pedestrian areas, such as welcome centers within the MS4 permitted area | Install and maintain pet waste stations in welcome centers within the MS4 Permitted Area. | X                        |                   |      |     |          |       |
| 4.2.2 Public Involvement            |                               |                      |                   |      |     |          |       |
| 4.2.2-1 Adopt-A-Highway Program    | N/A                           |                      |                   |      |     |          | X     |</p>
<table>
<thead>
<tr>
<th>2017-2022 Permit No. GAR041 000 Ref.</th>
<th>Best Management Practice (BMP)</th>
<th>Activity Description</th>
<th>Design-Build Contractor</th>
<th>GDOT</th>
<th>PMC</th>
<th>3rd Party</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.2-2</td>
<td>Public Information Open Houses (PIOHs) to allow public input into projects</td>
<td>Conduct all appropriate public information open houses as applicable. As part of each public information open house, contact GDOT Office of Design Policy to ensure that a Stormwater Management Program display is provided and displayed at the open house. Provide the number of open houses conducted each year.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.2-3</td>
<td>Memorandum of Agreements</td>
<td>N/A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.3</td>
<td>Illicit Discharge Detection and Elimination</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.2.3-1</td>
<td>Outfall Map and Inventory</td>
<td>Provide a list of new outfalls within the project area indicating the location and geographic coordinates for each outfall. Provide all information per SP 156 and submit inventory to <a href="mailto:stormwater@dot.ga.gov">stormwater@dot.ga.gov</a> each quarter.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.3-2</td>
<td>A policy that prohibits non-stormwater discharges into the MS4</td>
<td>N/A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.3-3</td>
<td>An Illicit Discharge Detection and Elimination (IDDE) Plan</td>
<td>Conduct inspections of outfalls within the project area each year inspecting the outfalls for the presence of dry weather discharges in accordance with the IDDE plan. For a copy of the IDDE plan, contact the GDOT Office of Design Policy. Provide a copy to GDOT on a quarterly basis of the inspection reports (see the IDDE plan) for each outfall inspected. If a dry weather discharge is detected, contact the GDOT Environmental Manager for further investigation / action.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Contractor responsible for inspections and reporting of any illicit discharges observed to the GDOT Office of Design Policy &amp; Support within one business day of detection for further action and reporting to EPD, as needed.</td>
</tr>
<tr>
<td>4.2.3-4</td>
<td>Procedures for tracing and eliminating any identified illicit discharges</td>
<td>N/A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.3-5</td>
<td>Education</td>
<td>N/A</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.3-6</td>
<td>Procedures for receiving and responding to complaints related to illicit discharges</td>
<td>Report all complaints related to illicit discharges to the GDOT Environmental Manager. Provide a summary of the number of complaints and summary of resolution including the date and time received each year for the project area to GDOT (by January 15th of the following year).</td>
<td>X</td>
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<tr>
<td>4.2.3-7 Spill response procedures</td>
<td>Report all spills in accordance with the IDDE plan and the Georgia Oil or Hazardous Material Spills and Releases Reporting. If a spill occurs and the spill reaches an MS4 structure, report the spill to the GDOT Environmental Manager.</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>4.2.4 Construction Site Runoff Stormwater Control</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.2.4-1 A contractual obligation mechanism</td>
<td>N/A</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.4-2 Erosion, Sedimentation and Pollution Control Plans (ESPCPs)</td>
<td>Prepare and submit to EPD an ESPCP that complies with the requirements of the most recent Construction Activity Permits, which identify the Manual for Erosion and Sediment Control in Georgia (Green Book) and stream buffer requirements for all land disturbance activities that require coverage.</td>
<td>X</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4.2.4-3 Procedures for receiving and responding to erosion and sedimentation complaints</td>
<td>Report all complaints related to construction site runoff to the GDOT Environmental Manager. Provide a summary of the number of complaints and summary of resolution including the date and time received each year for the project area to GDOT.</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.2.4-4 Site plan review procedures</td>
<td>N/A</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>Post-let GEC.</td>
</tr>
<tr>
<td>4.2.4-5 Site inspection procedures in accordance with the Construction Activity Permits</td>
<td>Maintain inspections as required in the most recent Construction Activity Permits, which identify the Manual for Erosion and Sediment Control in Georgia (Green Book) and stream buffer requirements for all land disturbance activities that require coverage. Provide a copy of all inspections performed.</td>
<td>X</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4.2.4-6 Ensure through Contracts or other mechanisms that construction site operators control waste that may cause adverse water quality impacts in accordance with the Construction Activity Permits</td>
<td>N/A</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.4-7 Procedures for bringing Contractors back into compliance with the Contract requirements</td>
<td>N/A</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.5 Post-Construction Stormwater Management</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2017-2022 Permit No.</td>
<td>Best Management Practice (BMP)</td>
<td>Activity Description</td>
<td>Design-Build Team</td>
<td>GDOT</td>
<td>PMC</td>
<td>3rd Party</td>
<td>Notes</td>
</tr>
<tr>
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</tr>
<tr>
<td>GAR041 000 Ref.</td>
<td>Inventory of post-construction stormwater management structures, designed for filtering and/or detention</td>
<td>Provide an inventory of all permanent Post Construction Stormwater management structures following GDOT acceptance utilizing SP 156 for required data to be provided on each structure.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.5-1</td>
<td>Policy or other regulatory mechanism to address post-construction runoff</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4.2.5-2</td>
<td>Program for the long-term operation and maintenance of post-construction structures</td>
<td>Inspect GDOT accepted Post Construction Stormwater management structures following the frequency in the I&amp;M manual within the project area utilizing the inspection forms in the current effective GDOT Stormwater System Inspection &amp; Maintenance (I&amp;M) Manual. Report all maintenance performed on each structure utilizing GDOT Maintenance Activity Codes.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.5-3</td>
<td>Program for ensuring the use of a stormwater design manual and the feasibility of inclusion of the post-construction standards from Section 4.2.5.1 during the project design phase</td>
<td>Submit and secure approval of a Post Construction Stormwater Report for all applicable construction projects within the project area following the specifications in the most current GDOT Drainage Manual.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.5-4</td>
<td>Green Infrastructure / Low Impact Development</td>
<td>Submit and secure approval of a Post Construction Stormwater Report for all applicable construction projects within the project area following the specifications in the most current GDOT Drainage Manual.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.5.4-1</td>
<td>Program for conducting a green infrastructure / low impact development (GI/LID) feasibility study, and implementing GI/LID infrastructure, where feasible</td>
<td>Submit and secure approval of a Post Construction Stormwater Report for all applicable construction projects within the project area following the specifications in the most current GDOT Drainage Manual.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.6</td>
<td>Pollution Prevention / Good Housekeeping for Municipal-Type Operations</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4.2.6-1</td>
<td>Inventory of GDOT facilities conducting municipal-type activities that have the potential to cause pollutant runoff</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.6-2</td>
<td>Program for inspecting the GDOT facilities for good housekeeping practices</td>
<td>Perform annual inspections of all facilities accepted by GDOT requiring coverage under the F-SWPPP within the project area utilizing the inspection forms in the current effective GDOT F-SWPPP. Update the SWPPP as necessary to reflect changes to the facility, operations or materials stored on site.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-2022 Permit No. GAR041 000 Ref.</td>
<td>Best Management Practice (BMP)</td>
<td>Activity Description</td>
<td>Design-Build Team</td>
<td>GDOT</td>
<td>PMC</td>
<td>3rd Party</td>
<td>Notes</td>
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<tr>
<td>4.2.6-3</td>
<td>Manual detailing procedures for routine maintenance activities at municipal type operations to prevent pollutant runoff</td>
<td>Provide an annual copy of required maintenance performed and corrective actions implemented for each GDOT accepted facility utilizing the F-SWPPP for guidance.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.6-4</td>
<td>Inventory and Map of MS4 structures</td>
<td>Provide an inventory of all MS4 structures following GDOT acceptance utilizing SP 156 for required data to be provided on each structure. Update annually as necessary to reflect changes to the project area.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.6-5</td>
<td>Program for inspecting and maintaining MS4 structures</td>
<td>Perform inspections on 20% of all GDOT MS4 structures within the project area annually utilizing the GDOT Stormwater System Inspection &amp; Maintenance Manual such that all structures are inspected over the course of 5 years. Report all maintenance performed on each structure utilizing GDOT Maintenance Activity Codes.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.6-6</td>
<td>An employee training program, with the purpose of preventing and reducing stormwater pollution from GDOT facilities and activities</td>
<td>All field personnel with supervisory capacity assigned to the project must attend a GDOT F-SWPPP training course once every 5 years. For those personnel that have not attended the training course, the training course must be completed within 6 months of assignment to the project.</td>
<td>GDOT responsible for providing regularly scheduled courses. Design-Build Team responsible for attending course.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.6-7</td>
<td>Procedures for receiving and responding to complaints related to MS4 structures</td>
<td>Report all complaints related to runoff / pollution from GDOT accepted facilities within the project area to the GDOT Environmental Manager. Provide a summary of the number of complaints and summary of resolution including the date and time received each year for the project area to GDOT.</td>
<td>X</td>
<td></td>
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</tr>
</tbody>
</table>

**Reporting:**

GDOT’s NPDES Phase II MS4 permit requires that an annual report be submitted each year documenting compliance with all aspects of the permit from January 1st to December 31st (reporting period). To aid in that reporting, the Contractor shall submit quarterly update reports documenting those activities undertaken during the reporting period as required in the matrix above. The deadlines for each update report shall be established as shown below:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Dates</th>
<th>Quarterly Update Report Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>January 1st – March 31st</td>
<td>April 30th</td>
</tr>
<tr>
<td>Q2</td>
<td>April 1st – June 30th</td>
<td>July 31st</td>
</tr>
<tr>
<td>Quarter</td>
<td>Dates</td>
<td>Reporting Date</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Q3</td>
<td>July 1st – September 30th</td>
<td>October 31st</td>
</tr>
<tr>
<td>Q4</td>
<td>October 1st – December 31st</td>
<td>January 31st of subsequent year</td>
</tr>
</tbody>
</table>
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. Nos. 0013545

Attachment 13-1

SP 443 Elastomeric Profile Bridge Joint Seals
SP 447 Modular Expansion Joints
SP 449 Silicone Seal
SP 449 Bridge Deck Joint Seals
SP 500 HPC
SP 500 Light Weight Concrete
SP 500 Class D
SP 500 Mass Concrete
SP 500 UHPC
SP 511 Mechanical Bar Splice
SP 581 Disc Bearings
SP 627 LRFD MSE Walls
SP 865 Manufacture of Prestressed Concrete Members
SP 999 Precast Concrete Deck
SECTION 443 - ELASTOMERIC PROFILE BRIDGE JOINT SEALS

443.1 General Description

This work consists of furnishing and installing a bridge deck joint seal device to the limits shown on the plans that consists of a monolithic steel strip seal retainer, a polychloroprene gland, and alubricant adhesive. Only a continuous full length strip seal joint system is acceptable, unless stage construction or excessive length prohibits monolithic installation. Utilize a prequalified expansion device manufacturer with a five year proven history of successful product manufacture.

Provide an expansion joint device designed for HS-20 truck loading and impact in accordance with 2002 AASHTO specifications.

443.1.01 Definitions

A. Strip Seal Expansion Joint Device

This device is constructed of steel elements designed with a locking mechanism capable of securely locking the edges of a continuous non-reinforced polychloroprene gland. The steel elements are anchored to the structure in accordance with the specification. All materials are as specified in the contract documents or as recommended by the manufacturer of the strip seal joint assembly. The strip seal joint assembly is referred to throughout the specifications as the expansion joint device.

B. Joint

Provide joint opening between two portions of a structure to allow for expansion and contraction.

443.1.02 Related Referernces

General Provisions 101 through 150.

443.1.02 Submittals

Submit for review by the Engineer, complete shop drawings and product data for the expansion device. Submit seven (7) complete sets of information. At the discretion of the Engineer, furnish facilities for inspection of the completed device or a representative sample in the manufacturer’s plant. Allow the inspector free access to the necessary
parts of the manufacturer’s plant. Accurately set and securely support at the correct grade and elevation and the correct joint opening based on temperature as shown on the plans and on the approved shop drawings.

443.2 Materials

Furnish a manufacturer’s certification that the materials proposed for use on the project have been pretested and meet the requirements as set forth in the specification and as detailed in the corresponding contract drawings. Do not install materials in the field prior to the Engineer’s approval. The strip seal expansion joint device, including anchorages, is to be supplied by the manufacturer. The following requirements for each component are to be verified by the manufacturer:

A. Steel Elements

Provide ASTM A-588 weathering grade steel for the material utilized to produce a shape suitable to mechanically lock the sealing element in place throughout the normal movement cycle of the joint. Provide a minimum thickness of ¼ in. as measured from the internal locking mechanism cavity to the top surface of the steel retainer. Provide minimum dimensions of 2-1/4 in. width and 3 in. height.

Provide steel strip seal retainers that are a monolithic steel shape with a machined seal retainer cavity. Multiple component welded steel shapes and rolled steel, that is bent or crimped to achieve final shape and/or seal retainer cavity, is not permitted. Perform all welding in accordance to the Georgia Standard Specifications and paragraph D-1.5 of the AWS welding code. Provide full penetration groove welds for splices between sections of steel strip seal retainers.

B. Continuous Polychloroprene Gland

Supply and install the polychloroprene gland in one continuous length. Provide a gland with a shape that promotes self-removal of foreign material during normal joint operation. Provide a gland with physical properties generally in accordance with the following:

<table>
<thead>
<tr>
<th>PHYSICAL PROPERTY</th>
<th>ASTM TEST METHOD</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength, min, psi</td>
<td>D-412</td>
<td>2000</td>
</tr>
<tr>
<td>Elongation @ break, min, %</td>
<td>D-412</td>
<td>250%</td>
</tr>
<tr>
<td>Hardness, Type A durometer</td>
<td>D-2240 Modified</td>
<td>55 ± 5% points</td>
</tr>
<tr>
<td>Oven aging, 70h @ 212°F</td>
<td>D-573</td>
<td></td>
</tr>
<tr>
<td>Tensile strength, max % loss</td>
<td></td>
<td>20% max</td>
</tr>
<tr>
<td>Elongation, max % loss</td>
<td></td>
<td>20% max</td>
</tr>
<tr>
<td>Hardness, Type A durometer, points change</td>
<td></td>
<td>0 to + 10</td>
</tr>
<tr>
<td>Oil Swell, ASTM Oil No. 3, 70h @ 212°F</td>
<td>D-471</td>
<td></td>
</tr>
<tr>
<td>Weight change, max %</td>
<td></td>
<td>45%</td>
</tr>
<tr>
<td>Ozone resistance</td>
<td>D-1149 Modified</td>
<td></td>
</tr>
<tr>
<td>20% strain, 300 pphm in air 70h @ 104°F</td>
<td></td>
<td>no cracks</td>
</tr>
<tr>
<td>Low temperature stiffening, 7 days @ 14°F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness, Type A durometer, points change</td>
<td></td>
<td>0 to + 15</td>
</tr>
<tr>
<td>Compression Set, 70h @ 212°F max</td>
<td>D-395 Method B (modified)</td>
<td>40%</td>
</tr>
</tbody>
</table>
C. **Lubricant Adhesive**

Use a one part moisture curing polyurethane and hydrocarbon solvent mixture meeting the requirements of ASTM D-4070-81 for the material used in bonding the polychloroprene gland to the steel elements.

D. **Anchorage**

Provide an anchorage as detailed on the contract drawings with a minimum of 0.75 in\(^2\) of bolt area per 1.0 linear foot of joint (Minimum ½ in. diameter hardware at 6 in. O.C. both sides of joint).

### 443.2.01 Delivery, Storage and Handling

General Provisions 101 through 150.

Store all materials to prevent damage from the elements and to ensure the preservation of its quality and fitness for the work. Avoid contact with flame.

Inspect all stored materials, although accepted before storage, prior to their use in the work. Ensure that all stored materials meet the requirements of the Contract at the time of use.

Remove from the site of the work immediately, any material rejected because of failure to meet the required tests or rejected because of damage. Replace all removed material at no additional cost to the Department.

### 443.3 Construction Requirements

#### 443.3.01 Personnel

General Provision 101 through 150.

#### 443.3.02 Equipment

General Provisions 101 through 150.

#### 443.3.03 Preparation

General Provisions 101 through 150.

#### 443.3.04 Fabrication

General Provisions 101 through 150.

#### 443.3.05 Construction

Measure and record the surface temperature of the concrete and/or steel with a surface thermometer as described below. Record the temperature of the underside of the concrete slab at each end of the superstructure element adjacent to the expansion joint. Take the average of the readings to use with the temperature shown on the shop drawings.

Immediately prior to installation, inspect the joint system for proper alignment and complete bond between the neoprene sealer and the steel and proper stud placement and effectiveness. No bends or kinks in the joint system are allowed, except as necessary to follow the roadway grades. Any joint system exhibiting bends or kinks due to transporting or as a result of mishandling are to be removed from the work site, and replaced by a new joint system, at no additional expense to the Department. Where stage construction is required, connect all steel sections using full penetration groove welds.
Inspect studs visually and give each a light blow with a 4 lb. hammer to ensure full connection to steel. Replace any stud which does not have a complete end weld, or does not emit a ringing sound when struck with a light blow by hammer. Carefully remove studs located more than 1 inch in any direction from the location shown on the shop drawings and provide a new stud placed on the proper location. Perform all stud replacements at no additional expense to the Department.

Blast clean all metal surfaces to come in contact with the neoprene sealer in accordance with the requirements of Steel Structures Painting Council Surface Preparation NO. 6 (SSPC-SP6)-Commercial Blast Cleaning. After cleaning, all cleaned surfaces are to exhibit a clean quality of C SA 2, or better, as defined by Steel Structures Painting Council Standard SSPC-VIS 1.

Protect cleaned metal surfaces until such time as the sealer and lubricant adhesive are placed against the metal surface. Reclean any metal surface upon which rusting appears in accordance with the foregoing, at no additional expense to the Department. Replace neoprene seals not fully bonded to the steel at no additional expense to the Department.

After installation and when the adjacent concrete is cured, water test the expansion joint device under the Engineer’s direction and supervision. Seeping of water through the joint is cause for rejection of the expansion joint device.

### 443.4 Measurement

Measurement for the expansion device is per each device completely installed, which is the expansion joint device in place with the concrete placed and finished and the watertight integrity test performed as described above.

### 443.5 Payment

Payment for the expansion device as specified above is paid for at the Contract Unit price bid per each. Such payment is full compensation for furnishing all equipment and materials and performing the work in accordance with the Plans and Specifications.

Payment will be made under:

<table>
<thead>
<tr>
<th>Item No. 443</th>
<th>Elastomeric Profile Bridge Joint Seals, Bridge No - , Bent No - ___</th>
<th>Per each</th>
</tr>
</thead>
</table>
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT NO.
P.I. NO. 0013545

Section 447—Modular Expansion Joints

Delete Section 447 and substitute the following:

Section 447—Modular Expansion Joints

447.1 General Description
This work includes fabricating, furnishing, and installing a modular expansion joint device at the locations shown on the
plans and in accordance with these specifications. Seal the deck surface and side barriers to prevent water from seeping
through the bridge deck. Any seeping of water through the joint will be cause for rejection of the expansion device.

Use a modular expansion joint device supplied by one of the following:

(a) Wabo Modular Expansion Joint System – as furnished by:
    Watson Bowman Acme
    95 Pineview Drive
    Amherst, New York 14228     Tel. (716) 691-7566

(b) Steelflex Modular Expansion Joint System – as furnished by:
    D.S. Brown Company
    300 East Cherry Street
    North Balitmore, Ohio 45872     Tel. (419) 257-3561

Only a continuous full length modular joint device supplied by one of the foregoing suppliers is acceptable. No other supplier
will be considered. Only one type of modular joint device will be permitted to be installed at all locations. The installation of
two different types at separate locations will not be permitted.

447.1.01 Definitions
The term modular expansion device includes the following items:

- Elastomeric joint seals
- Support bar
- Center beam
• Edge beam
• Sliding elastomeric bearings

447.1.02 Related References
A. Standard Specifications
   Section 501—Steel Structures
   Section 535—Painting Structures
   Section 645—Repair of Galvanized Coatings
   Section 851—Structural Steel
B. Referenced Documents
   General Provisions 101 through 150.

447.1.03 Submittals
A. Shop Drawings
   Submit shop drawings in accordance with Section 501 of the Specifications. Include the manufacturer’s instructions for proper installation of the expansion joint device. Show details of the expansion device at the barrier. Furnish the facilities for testing and inspecting the completed device or have the manufacturer provide a representative sample expansion device in his plant or at an independent test facility. Allow inspectors free access to the necessary parts of the manufacturer’s plant and test facility and cooperate with the Inspector.

447.2 Materials
Ensure that materials meet the following requirements:

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Steel (except center beams, edge beams and support bars)</td>
<td>ASTM A 709 Gr 36 (A 709 Gr 250)</td>
</tr>
<tr>
<td>Center Beams, Edge Beams and Support Bars</td>
<td>ASTM A 709 Gr 50 (A 709 Gr 345) or ASTM A 709 Gr 50W (A 709 Gr 345W)</td>
</tr>
<tr>
<td>Headed Studs</td>
<td>ASTM A 108</td>
</tr>
<tr>
<td>Premolded Seals, Lubricant, Adhesive, and Sliding Surfaces</td>
<td>As per manufacturer’s current literature and recommendations</td>
</tr>
<tr>
<td>Stainless Steel Bearing Surfaces</td>
<td>ASTM A 167 or A 240M/A 240, Type 304</td>
</tr>
</tbody>
</table>

447.2.01 Delivery, Storage, and Handling
General Provisions 101 through 150.

447.3 Construction Requirements

447.3.01 Personnel
Ensure that the manufacturer provides an experienced representative familiar with the installation of the expansion device to be present at all times while the expansion device is being installed. Notify the expansion device manufacturer of the scheduled installation a minimum of two (2) weeks prior to the installation date.
447.3.02 Fabrication

A. Modular Unit

1. Use a device consisting of premolded elastomeric expansion joint strip seals mechanically held in place by steel center beams and edge beams. Box seals will not be permitted. Ensure that the components meet the following requirements:
   - Each transverse center beam is a one-piece monolithic shape individually supported by, and welded to, an independent support bar.
   - Edge beams that are a minimum of 4 ¾ inches (120 mm) in height and have a machined or extruded retainer shape.
   - Securely anchored into concrete.
   - Support bars supported by sliding elastomeric bearings.
   - Provide equal-distance control of the premolded elastomeric seals.

2. Paint or galvanize all structural steel not in contact with elastomers or embedded in concrete in accordance with Section 501. Either painting or galvanizing may be used, unless noted otherwise on the plans. Galvanize (do not paint) portions of structural steel in contact with elastomeric seals or embedded in concrete. Shop apply all paint coats.

B. Center Beams and Support Bars

Design center beams, support bars, and their connections to satisfy the applicable requirements of the current edition of AASHTO Standard Specifications for Highway Bridges. In addition, design center beams and support bars to satisfy the minimum criteria:

- The maximum spacing of the support bars connected to a center beam is 4.0 feet (1.22 m) along the center beam.
- The minimum area of the center beam is 4.9 square inches (645 mm$^2$).
- Minimum section modulus about the horizontal axis for the bottom fiber of a center beam is 5.9 cubic inches (96 684 mm$^3$).
- For the support bar, the minimum area (A) and minimum section modulus, about the horizontal axis for the top fiber (S), is as follows:

<table>
<thead>
<tr>
<th>Rated Movement (inches/millimeters)</th>
<th>0-6/150</th>
<th>0-9/230</th>
<th>0-12/305</th>
<th>0-15/380</th>
<th>0-18/460</th>
<th>0-21/535</th>
<th>0-21/610</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (in$^2$/mm$^2$)</td>
<td>5.1/3290</td>
<td>6.2/4010</td>
<td>7.0/4516</td>
<td>7.7/4968</td>
<td>8.5/5484</td>
<td>9.1/5871</td>
<td>9.7/6258</td>
</tr>
<tr>
<td>S (in$^3$/mm$^3$)</td>
<td>2.9/47 522</td>
<td>4.2/68 826</td>
<td>5.5/90 129</td>
<td>6.7/109 793</td>
<td>8.0/131 097</td>
<td>9.3/152 400</td>
<td>10.4/170 426</td>
</tr>
</tbody>
</table>

- Ensure that the center beams and support bars are sufficiently detailed in the shop drawings so that the above minimum section properties can be independently verified using the information contained in the shop drawings.

447.3.03 Construction

Install the modular expansion joint device in strict accordance with the manufacturer’s written instructions, the advice of their representative, and these specifications. Ensure that the permanently installed expansion joint device matches the finished roadway profile and grade.

Immediately prior to installation, have the Engineer inspect the expansion joint device for proper alignment, and complete bond between the premolded elastomeric seals and the steel, and proper stud placement and constructability. Bond any
premolded elastomeric seals not fully bonded to the steel. Ensure that all bolted connections are checked and tightened if found to be loose.

Do not allow any bends or kinks in the expansion joint steel (except as necessary to follow the roadway grades). Straightening of bends or kinks will not be allowed. Remove any expansion joint device exhibiting bends or kinks from the work site, and replace it with a new expansion device.

Ensure that the manufacturer presets the expansion joint device prior to shipment. Preset the joint opening at 70° F (21° C) or as indicated on the plans. Remove any mechanical devices supplied to set the expansion joint to the proper width following final adjustment for temperature.

Inspect the concrete anchorages visually and give each one a light blow with a 4 lb (18 N) hammer. Replace any anchorage which does not have a complete weld or does not emit a ringing sound when struck with a light blow of the hammer.

Weld stainless steel sheet to the support member. Adhesive will not be allowed.

Anchor the expansion device as shown on the plans or as shown on the shop drawings approved by the Engineer. Where support bar boxes interfere with the edge beam anchorage method, weld the edge beam to the support bar boxes. For portions of the support bar boxes embedded in concrete, weld all plate connections perimeter in a manner that will prevent water or mortar from entering the box.

Accurately set and securely support the expansion device at the correct grade and elevation, and the correct joint opening as shown on the plans and on the shop drawings. If the maximum time between setting the joint opening and placing concrete exceeds four hours, check and adjust the opening as necessary.

Measure the structure temperature by recording the surface temperature of the concrete and/or steel with a surface thermometer as described below.

1. Concrete bridges: Record the temperature of the underside of the concrete slab at each end of the superstructure element adjacent to the expansion joint. Take the average of the readings to use with the temperature adjustment shown on the plans or on the approved shop drawings.

2. Steel bridges: Record the concrete slab temperature as described above. In addition, record the surface temperature of the shaded portion of the girder web at each location. Average the readings of the steel and concrete to use with the temperature adjustment.

Blast clean all non-galvanized metal surfaces that come in contact with the premolded elastomeric seal and lubricant adhesive in accordance with the requirements of Steel Structures Painting Council Surface Preparation Specification No. 6 (SSPC-SP6, Commercial Blast Cleaning).

Protect the cleaned metal surfaces from rusting until the premolded elastomeric seal and lubricant adhesive are placed against the metal surface. Reclean any previously cleaned metal on which rusting appears in accordance with the foregoing.

In order to perform the work of installing the expansion joint device in a proper manner, some portions of the barrier and bridge deck cannot be constructed until after the expansion joint is installed. After the modular expansion joint device has been set to its final line and grade, fill recess openings in the deck and barrier with concrete (Class AA).

447.3.04 Quality Acceptance

A. Fatigue Testing

Perform fatigue testing by an independent testing laboratory on multiple spans of one or more full-size center beams. Test the same support and connections of the center beams and support bars as for the designed unit. Apply a simultaneous horizontal load, equal to a minimum of 20% of the vertical load. Perform the fatigue testing in accordance with the manufacturer’s recommendations and approved procedures.

B. Watertight Integrity

After the expansion joint device has been permanently installed, test the full length of the device for watertight integrity. Use a method satisfactory to the Engineer.

Cover the entire joint system with water, either ponded or flowing, for a minimum duration of 15 minutes. Inspect the concrete surfaces under the joint during this 15 minute period and also for a minimum of 45 minutes after the supply of water has stopped, for any evidence of dripping water on any surface on the underside of the joint. Patches of moisture are not a cause for non-acceptance.
If the joint system exhibits evidence of water leakage at any place whatsoever, locate the leakage and take measures to correct the leakage as approved by the Engineer. Subsequent to corrective measures, perform the watertightness integrity test subject to the same conditions as the original test.

The words “permanently installed” as used above include completion of the portions of the barrier and deck that cannot be constructed until after the expansion device installed. This applies even though this work is to be paid for under other contract items.

C. Contractor Certification

Provide written certification to the Engineer that the expansion joint device was installed in accordance with the manufacturer’s instructions, the advice of their representative, and these specifications. Also, provide in writing any certification from the joint manufacturer’s representative.

447.4 Measurement

Bridge expansion device will be measured as a unit, completely installed and accepted.

The words “completely installed” mean that the expansion joint device is in place with concrete placed and finished, and that the watertight integrity test has been successfully performed.

447.5 Payment

Each expansion joint device will be paid for at the Contract Price per each, complete in place. Payment will be full compensation for all work necessary to furnish, test, and install a modular expansion device, steel angles, concrete anchorages, placing and finishing concrete in block-outs.

Payment will be made under;

Item No. 447-1050 Modular Expansion Joint, Br No -, Bt No - .............................................. per each
Add the following Subsections to Section 449:

449.1 General Description

- A preformed silicone joint seal, or

449.2 Materials

J. Performed Silicone Joint Seal

The preformed silicone joint seal shall as a minimum:

- Be held in place by a non-sag, high modulus silicone adhesive.
- Be compatible with epoxy and elastomeric concrete header material and steel headers (if required).
- Withstand the effects of vertical and lateral movements, skew movements and rotational movement without adhesive or cohesive failure.
- The depth of the joint shall be recessed below the riding surface throughout the normal limits of joint movement.
- Be resistant to ultraviolet rays
- Be resistant to abrasion, oxidation, oils, gasoline, salt, and other materials that may be spilled on or applied to the surface.
Ensure the joint meets the following physical properties:

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness Type A durometer</td>
<td>53 ± 5</td>
<td>ASTM D 2240</td>
</tr>
<tr>
<td>Tensile Strength (min)</td>
<td>550 psi (3.8 Mpa)</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Elongation at break (min)</td>
<td>350%</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Tear Strength (min)</td>
<td>80 lb/in (92 kg/cm)</td>
<td>ASTM D 624</td>
</tr>
<tr>
<td>Compression set (max)</td>
<td>30% at 350°F</td>
<td>ASTM D 395</td>
</tr>
<tr>
<td>Operating temp range (min)</td>
<td>-60°F to 450°F (51°C to 232°C)</td>
<td></td>
</tr>
</tbody>
</table>

The adhesive shall also have the following properties:

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sag/flow (max)</td>
<td>3/16” (4.8 mm)</td>
<td>ASTM C 639</td>
</tr>
<tr>
<td>Hardness</td>
<td>23 ± 3</td>
<td>ASTM C 661</td>
</tr>
<tr>
<td>Tack free time (max)</td>
<td>30 minutes</td>
<td>ASTM C 679</td>
</tr>
<tr>
<td>Skin over time (tooling Time) (max)</td>
<td>5 minutes</td>
<td>AT 75°F/50% RH</td>
</tr>
<tr>
<td>Cure through to ¼” thickness (max)</td>
<td>16 hours</td>
<td>AT 75°F/50% RH</td>
</tr>
<tr>
<td>Resistance to UV</td>
<td>No Degradation</td>
<td>ASTM C 793</td>
</tr>
<tr>
<td>Peel Adhesion to substrates (min)</td>
<td>50 lb/in (58kg/cm)</td>
<td>ASTM C 794</td>
</tr>
</tbody>
</table>

449.3.03 Preparation

A. Surface Preparation

2. Preparation for Joint Seal

Delete: “Saw-cutting of the concrete deck may be necessary to provide an acceptable attachment surface for the joint seal”.

Page 2
449.3.05 Construction

H. Preformed Silicone Joint Seal

1. After the epoxy or elastomeric concrete has developed enough strength to be traffic ready, remove the temporary joint filler (when called for) and thoroughly clean the joint faces of all joint filler.

2. Lightly sandblast the joint to remove all residues. Prior to installation, ensure surfaces are completely dry and all recommendations of the manufacture have been completed.

3. Clean the seal prior to installation by wiping it down with a cloth saturated with denatured alcohol.

4. Apply a 3/8” thick bead of adhesive along both sides of the joint at the depth recommended by the manufacturer.

5. Position the joint seal to the proper depth as recommended by the manufacturer.

6. Apply a bead of adhesive along the top side of the joint on each side as recommended by the manufacturer.

7. Tool the adhesive twice to insure complete contact with the vertical edge.
Add the following Subsections to Section 449:

449.1 General Description

- A Preformed Pre-compressed, Silicone Coated, Self-Expanding Sealant System

449.2 Materials

J. Preformed Pre-compressed, Silicone Coated, Self-Expanding Sealant System

The preformed pre-compressed silicone joint seal shall as a minimum:

- Be held in place by a non-sag, high modulus silicone adhesive.
- Be compatible with the epoxy and header material.
- Withstand the effects of vertical and lateral movements, skew movements and rotational movement without adhesive or cohesive failure.
- Designed so that, the material is capable of movement of +50%, -50% (100% total) of nominal material size.
- Changes in plane and direction shall be executed using factory fabricated 90 degree transition assemblies. The transitions shall be watertight at the inside and outside corners though the full movement of the product.
- The depth of the joint shall be recessed ½” below the riding surface throughout the normal limits of joint movement.
- Be resistant to ultraviolet rays
- Be resistant to abrasion, oxidation, oils, gasoline, salt, and other materials that may be spilled on or applied to the surface.
- Certify to the Engineer that the joint composition shall be free of any waxes or wax compounds; asphalts or asphalt compounds.
Ensure the joint meets the following physical properties:

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength of Silicone Coating (min)</td>
<td>140 psi</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>UV Resistance of Joint System</td>
<td>No Changes--2000 Hours</td>
<td>ASTM G155-00A</td>
</tr>
<tr>
<td>Density of Cellular Polyurethane Foam</td>
<td>200kg/m3 (12.5lb/ft3)</td>
<td>ASTM D545</td>
</tr>
<tr>
<td>Heat Aging Effects (Silicone Coating)</td>
<td>No cracking, chalking</td>
<td>ASTM C 792</td>
</tr>
<tr>
<td>Resilience (Silicone Coating)</td>
<td>$\geq 95%$</td>
<td>ASTM D 5329</td>
</tr>
<tr>
<td>Joint System Operating temp range (min)</td>
<td>-40$^\circ$ F to 185$^\circ$ F</td>
<td>ASTM C 711</td>
</tr>
</tbody>
</table>

The adhesive shall be a two-component, 100% solid, modified epoxy meeting the requirements of ASTM C881, Type I, Grade 3, Class B & C. The adhesive shall also have the following properties:

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>2,500 psi (24 MPa) min.</td>
<td></td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>7000 psi (48 MPa) min.</td>
<td></td>
</tr>
<tr>
<td>Bond Strength (Dry Cure)</td>
<td>2000 psi (28MPa) min</td>
<td></td>
</tr>
<tr>
<td>Water Absorption</td>
<td>0.1% by weight</td>
<td></td>
</tr>
</tbody>
</table>

The silicone band adhesive shall have the following properties:

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement Capability</td>
<td>$+100/-50%$</td>
<td>ASTM C 719</td>
</tr>
<tr>
<td>Elongation at Break</td>
<td>$&gt;1400%$</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Slump</td>
<td>$\leq0.3^\prime$</td>
<td>ASTM D 2202</td>
</tr>
<tr>
<td>Hardness (Shore A) max.</td>
<td>20</td>
<td>ASTM C 661</td>
</tr>
<tr>
<td>Tack free time (max)</td>
<td>60 minutes</td>
<td>ASTM C 679</td>
</tr>
<tr>
<td>Heat Aging Effects</td>
<td>No cracking, chalking</td>
<td>ASTM C 792</td>
</tr>
<tr>
<td>Resilience</td>
<td>$\geq 95%$</td>
<td>ASTM D 5329</td>
</tr>
<tr>
<td>Bond</td>
<td>0% Adhesive or Cohesive Failure after 5 cycles @100%extension</td>
<td>ASTM D 5329</td>
</tr>
</tbody>
</table>
449.3.03 Preparation

A. Surface Preparation

   2. Preparation for Joint Seal

       Delete: “Saw-cutting of the concrete deck may be necessary to provide an acceptable attachment surface for the joint seal”.

449.3.05 Construction

H. Preformed Pre-compressed, Silicone Coated, Self-Expanding Sealant System

   1. After the epoxy or elastomeric concrete had developed enough strength to be traffic ready, remove the temporary joint filler (when called for) and thoroughly clean the joint faces of all joint filler.
   2. Lightly sandblast the joint to remove all residues. Prior to installation ensure surfaces are completely dry and all recommendations of the manufacture have been completed.
   3. Clean the seal prior to installation by wiping it down with a cloth saturated with acetone.
   4. Apply epoxy adhesive to substrate in a thin layer inside cleaned substrate.
   5. Install the foam length into the wet epoxy adhesive so that the top of the bellows is ½” below the deck surface.
   6. Inject a ¾-inch band of Silicone between the substrate and the foam.
   7. Tool the excess Silicone and remove excess Silicone from bellows at the joins. Coat any exposed foam ends.

449.5 Payment

Payment will be made under:

<table>
<thead>
<tr>
<th>Item No. 449</th>
<th>Preformed Pre-compressed, Silicone Coated, Self-Expanding Sealant System, Bridge No - ____, Bent No - ___</th>
<th>Per Linear Foot (meter)</th>
</tr>
</thead>
</table>

Bridge Maintenance
Delete Subsection 500.1 and substitute the following:

This work consists of manufacturing and using High Performance Portland cement concrete to construct precast-prestressed concrete bridge members as shown in the plans and using normal weight Portland cement concrete to construct structures as shown in the Plans.

Add the following to Subsection 500.1.02.A:

Section 831—Admixtures

Add the following to Subsection 500.1.02.B:

AASHTO T 277

Add the following to Subsection 500.1.03.A:

High Performance Concrete Mix Designs

The Fabricator is responsible for all concrete mix designs. Ensure that concrete mixes contain enough cement to produce workability within the water-cement ratio specified in Table 1A—High Performance Concrete Mix Table, below.

Submit a mix design for approval to the Office of Materials and Research. Include the sources and actual quantity of each ingredient and laboratory results that demonstrate the ability of the design to attain both the required compressive strength and chloride permeability at 56 days.

Include laboratory compressive strength test results of at least eight test cylinders prepared and cured according to AASHTO T 126. Ensure these test cylinders are made from two or more separate batches with an equal number of cylinders made from each batch.

Also include laboratory chloride permeability test results of at least two test specimens prepared and tested according to AASHTO T 277. Ensure these test specimens are made from two or more separate batches with an equal number of specimens made from each batch.
### Table 1A—High Performance Concrete Mix Table

<table>
<thead>
<tr>
<th>Class of Concrete</th>
<th>Coarse Aggregate Size No.</th>
<th>(1) Minimum Cement Factor (lbs/yd³)</th>
<th>Maximum Water/Cement ratio (lbs/lbs)</th>
<th>(2) Slump Acceptance Limits (in) Lower-Upper</th>
<th>Entrained Air Acceptance Limits (%) Lower-Upper</th>
<th>(3) Minimum Compressive Strength at 56 days (psi)</th>
<th>Maximum Chloride Permeability at 56 days (Coulombs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>AAA HPC</em></td>
<td>67</td>
<td>650</td>
<td>0.330</td>
<td>2 7</td>
<td>3.5 6.5</td>
<td>Beams – As shown on the Plans Piling – 5000</td>
<td>Beams – 3,000 Piling – 2,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class of Concrete</th>
<th>Coarse Aggregate Size No.</th>
<th>(1) Minimum Cement Factor (kg/m³)</th>
<th>Maximum Water/Cement ratio (kg/kg)</th>
<th>(2) Slump acceptance Limits (mm) Lower-Upper</th>
<th>Entrained Air Acceptance Limits (%) Lower-Upper</th>
<th>(3) Minimum Compressive Strength at 56 days (MPa)</th>
<th>Maximum Chloride Permeability At 56 days (Coulombs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>AAA HPC</em></td>
<td>67</td>
<td>386</td>
<td>0.330</td>
<td>50 180</td>
<td>3.5 6.5</td>
<td>Beams – As shown on the Plans Piling – 35</td>
<td>Beams – 3,000 Piling – 2,000</td>
</tr>
</tbody>
</table>

1. Determine the slump acceptance after the addition of high-range water reducer.

2. Determine the minimum compressive strength at 56 days using 4 in. diameter x 8 in. high (100 mm x 200 mm) cylinders.

*Add the following to Subsection 500.2 Table 3:*

- Fly Ash 831.2.03.A.1
- Silica Fume 831.2.03.A.4

*Add the following note to Subsection 500.2 Table 3:*

4. Use Type I or III Portland cement in High Performance concrete. Do not use air-entraining cement.

*Add the following to Subsection 500.3.04.D.4:*

f. For High Performance concrete, fly ash may be used as an additive at an addition rate not to exceed 15% of the cement by weight.

*Add the following to Subsection 500.3.04.D:*

6. Silica Fume

   Silica Fume may be used as an additive at an addition rate not to exceed 10% of the cement by weight.
Add the following to Subsection 500.1:

This work consists of manufacturing and using Portland cement concrete with lightweight aggregate to construct structures as shown in the Plans.

Add the following to Subsection 500.1.02.B

- ASTM C 567
- AASHTO T 96
- AASHTO T 104
- AASHTO M 195
- AASHTO T 196
- GDT 32

Add the following to Subsection 500.3.01:

C. ACI Concrete Technician

Provide a GDOT certified ACI Concrete Technician, from an independent GDOT prequalified consultant firm, which is certified to perform Field Testing of Roadway Construction Materials.

Add the following to Subsection 500.3.04.F.1:

f. Lightweight Concrete—Concrete composed of a mixture of cementitious material, normal weight fine aggregate, lightweight coarse aggregate conforming to AASHTO M 195, water and admixtures. All structural lightweight concrete will have a maximum equilibrium density of 115 lbs/ft³ (1840 kg/m³) as determined by ASTM C 567.

g. Lightweight concrete will comply with the applicable requirements of Section 500 of the Standard Specifications. Use GDT 32 or AASHTO T 196 to determine air content of structural lightweight concrete.

Use lightweight coarse aggregate from an approved source or stockpile meeting the requirements of AASHTO M 195 and the Sulfate Soundness (AASHTO T 104) and Los Angeles Abrasion (AASHTO T 96) requirements of Section 800.2. Nominal sizes of lightweight coarse aggregates are as specified in AASHTO M 195 as 3/4, 1/2 or 3/8 in. (19.0, 12.5 or 9.5 mm).

The use of lightweight aggregate in concrete in a particular component of a structure will be shown on the Plans or called for in the specifications.
Add the following to Subsection 500.3.06:

F. Air Content Testing of Structural Lightweight Concrete

Provide testing of structural lightweight concrete per Subsection 500.3.04.F.1.g, and in accordance with test frequencies outlined in the Sampling, Testing and Inspection Quick Guide. Perform air content by a technician meeting the requirements of Subsection 500.3.01.C and who is approved by the Engineer. Submit test results to the Engineer. No separate measurement for payment will be made for testing of structural lightweight concrete.

MATERIALS AND RESEARCH
Add the following to 500.1.03.A:

The Contractor is responsible for all concrete mix designs. Submit a mix design for approval to the Office of Materials and Testing. Include the sources, actual quantity of each ingredient, design slump, design air and laboratory results that demonstrate the ability of the design to attain the required compressive strength at 28 days.

Prepare and test at least 8 cylinders according to ASTM C192 and AASHTO T22 to ensure that the demonstrated laboratory compressive strength at 28 days exceeds the minimum acceptance strength (X). Make the specimens from two or more separate batches with an equal number of cylinders made from each batch. The minimum acceptance strength is:

\[ X = f'c + 500 \text{ psi} \] (X = f’c + 3.4 MPa)

Where, \( f'c \) is the required minimum compressive strength at 28 days for Class D concrete as shown in Table 1—Concrete Mix Table.

Add the following to Table 1—Concrete Mix Table:

<table>
<thead>
<tr>
<th>Class of Concrete</th>
<th>(2) Coarse Aggregate Size No.</th>
<th>(1 &amp; 6) Minimum Cement Factor lbs/yd³</th>
<th>Max Water/Cement Ratio lbs/lbs</th>
<th>(5) Slump Acceptance Limits (in) Lower - Upper</th>
<th>(3 &amp; 7) Entrained Air Acceptance Limits (%) Lower - Upper</th>
<th>Minimum Compressive Strength at 28 days (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class D</td>
<td>57,67</td>
<td>650</td>
<td>0.445</td>
<td>2 - 4</td>
<td>3.5 - 7.0</td>
<td>4000</td>
</tr>
</tbody>
</table>

Metric

<table>
<thead>
<tr>
<th>Class of Concrete</th>
<th>(2) Coarse Aggregate Size No.</th>
<th>(1 &amp; 6) Minimum Cement Factor kg/m³</th>
<th>Max Water/Cement Ratio kg/kg</th>
<th>(5) Slump Acceptance Limits (mm) Lower - Upper</th>
<th>(3 &amp; 7) Entrained Air Acceptance Limits (%) Lower - Upper</th>
<th>Minimum Compressive Strength at 28 days (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class D</td>
<td>57,67</td>
<td>386</td>
<td>0.445</td>
<td>50 - 100</td>
<td>3.5 - 7.0</td>
<td>28</td>
</tr>
</tbody>
</table>

Delete Subsection 500.3.04.F.1.b

Add the following to Subsection 500.3.04.F.1:

f. Class D—Bridge superstructure concrete or as called for on the Plans

MATERIALS AND TESTING
Add the following to Subsection 500.1.02:

B. Referenced Documents

“Guide to Mass Concrete”, ACI 207.1R-05.
“Report on Thermal and Volume Change Effects on Cracking of Mass Concrete”, ACI 207.2R-07.
“Cooling and Insulating Systems for Mass Concrete”, ACI 207.4R-05.
“Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete”, ACI 211.1-91
“Control of Cracking Concrete Structures”, ACI 224R-01.
“Specification of Structural Concrete”, Section 8, ACI 301-10.
“Compressive Strength of Cylindrical Concrete Specimens”, AASHTO T 22-10
“Making and Curing Concrete Test Specimens in the Laboratory”, ASTM C192

Add the following to Subsection 500.3.05:

AM. Mass Concrete

Mass concrete is defined as “Any large volume of concrete with dimensions large enough to require that measures be taken to cope with the generation of heat and attendant volume change to minimize cracking”. Any concrete element with a least plan dimension greater than 5ft (or greater than 6 ft diameter for a drilled shaft) shall be designated as mass concrete and will use this specification. To account for variability in as-built dimension versus plan dimension, such as telescoping casing during construction, any concrete element with a least as-built dimension greater than 5 ½ ft (or greater than 6 ½ ft diameter for a drilled shaft) shall be designated as mass concrete and use this specification. The introduction of a construction joint at a dimension less than 5 ft does not ensure that the maximum temperature attained by or the differential temperature in concrete is adequately controlled. Proposals for large volume concrete shall thus be evaluated based on the heat development and a Thermal Control Plan.
a. Temperature Specifications for Mass Concrete

Mass concrete shall conform to the concrete acceptance criteria and the following temperature requirements to prevent delayed ettringite formation (DEF) and thermally induced stress cracks:

1. The maximum allowable internal temperature of mass concrete meeting the requirements of Subsection 500.3.05.AM.b.1, shall not exceed 158 °F.

2. The maximum temperature differential between interior and exterior portions of the designated mass concrete element shall not exceed 35 °F.

3. The maximum temperature of the concrete when delivered and prior to placement shall be 85 °F.

b. Materials Selection and Mix Design Development

Materials used for mass concrete shall conform to the provisions in Section 500-Concrete Structures of GDOT Standard Specifications-Construction of Transportation Systems and the following requirements. When in conflict, materials shall conform to the special provisions below rather than those in Section 500.

1. Use Class F fly ash (no Class C fly ash is allowed), granulated iron blast-furnace slag or other pozzolans, if approved by the Department in all mass concrete. Slag may comprise no more than 75% by mass of total cementitious and pozzolanous materials. Class F fly ash may comprise no more than 40% by mass of total cementitious and pozzolanous materials. When a combination of multiple different pozzolans is used, the total amount may be no more than 75% by mass of total cementitious and pozzolanous materials.

2. High-early-strength (ASTM C150 Type III or ASTM C1157 HE) cement, metakaolin, silica fume calcium chloride and accelerating type admixtures shall not be used unless an adiabatic temperature study is completed showing temperature rise significantly less than that of plain unmodified concrete.

3. A retarding admixture, pretested with the job materials under job conditions, may be permitted to prevent cold joints due to the quantity of concrete placed, as approved by the Engineer.

4. Coarse aggregate larger than #5 stone maximum size aggregate is permitted to be used for mass concrete, if approved by the Engineer.

5. Other materials and/or mix designs may be proposed to the Engineer for approval, with documentation that the proposed mix designs meet temperature specifications from Subsection 500.3.05.AM.a for mass concrete.
6. Laboratory-designed mix proportions of materials are permitted for commonly used combinations of materials. Request these mixes in writing from the State Materials Engineer specifying the class of concrete and the source of ingredients.

7. Degree of Alkali-Silica Reactivity (ASR) of either fine or coarse aggregate is determined by testing the aggregates in ASTM C1260, or ASTM C1567 (either expansion shall be less than 0.10% after 14 days immersion). Unless the results of petrography indicate a significant change in the composition of materials in quarries, ASTM 1293 (expansion <0.04% at 1 year) is not required to be conducted, before a mix design can be approved by the Engineer. Alternatively obtain low ARS risk aggregate materials from certified suppliers.

8. The mixture will be capable of demonstrating a laboratory compressive strength at 28 days meeting the requirements of Table 1 – Concrete Mix Table, Subsection 500.1.03.A. Compressive strength will be determined based upon result of six cylinders prepared and tested in accordance with AASHTO T 22 and ASTM C192.

c. Thermal Control Plan

At least 30 calendar days prior to placing any concrete defined as mass concrete, the contractor shall submit to the Engineer for approval a Thermal Control Plan (TCP). The TCP shall show complete analysis of the anticipated thermal developments in the mass concrete elements for all expected project temperature ranges using the proposed mix design, casting procedures and materials. A primary focus of the TCP is actions to take when any of the temperature controls noted in Subsection 500.3.05.AM are exceeded or are anticipated to be exceeded. As a minimum, the TCP shall include details about the following:

1. Concrete mix design showing composition, proportions, and sources for all components.
2. Proposed methods to control concrete temperature at time of placement, such as pre-cooling of raw materials or concrete.
3. Duration and method of curing.
4. Calculations of maximum concrete temperatures for the range of expected air, water (for underwater construction) and concrete temperatures.
5. Proposed methods to control maximum temperature during curing. A mechanical cooling system may be used to control the internal temperature of mass concrete during curing but shall be designed in conformance with the Thermal Control Plan. If a mechanical cooling system is used, the plans for the cooling system operation and final grouting after cooling shall be submitted to the Engineer for approval.
6. When the maximum concrete temperature nears 140 °F, notify the Engineer and take corrective measures immediately to retard further increase in the temperature to limit it to the 158 °F maximum. Utilize the mechanical cooling system, if installed, to lower the overall temperature. Other active measures may include, but not limited to
for any further pours: chilled water for mixing, precooling aggregate stockpiles, ice for mixing water, nitrogen gas, and shade for aggregate stockpiles. Cease placement of concrete until the maximum temperature has been lowered.

7. Proposed methods to control temperature differentials during curing that could include insulation for the forms and exposed portions of concrete. Contractor must take actions that prevent the exterior surfaces of the concrete from getting too cool, too quickly such as using insulation or heater or by preventing the core from getting too hot.

8. When the internal concrete temperature differential between interior and exterior concrete nears 30°F, notify the Engineer and take corrective measures immediately to retard further increase in the temperature differential to limit it to the 35°F maximum. Utilize the mechanical cooling system, if being use, to lower the internal temperature. Other active measures may include, but not limited to: chilled water for mixing, precooling aggregate stockpiles, ice for mixing water, nitrogen gas, and shade for aggregate stockpiles. Cease placement of concrete until the temperature differential has been lowered.

9. Calculations of maximum temperature gradients within each concrete element during curing. Calculations shall include maximum possible temperature induced tensile stress in the concrete in addition to tensile stresses at 1 day, 3 days, 7 days, 28 days, and 56 days after placement. The thermal calculation model and/or computational software shall be submitted to the Engineer for approval.

10. Temperature monitoring and recording system, that shall consist of temperature sensors connected to a data acquisition system. The temperature sensor types and locations shall be specified.

11. Results of strength tests of sample cylinders. The concrete shall attain the specified strength at an age (28 or 56 days) as specified by the Engineer. Match curing of concrete is required. Match curing shall be conducted according to temperature history obtained using thermocouples typically 4 inches from surface and at the centroid of the concrete pour. The depth of the thermocouple may need to be established by the depth of rebar or other anchoring structure (See Subsection 500.3.05.AM.d.3 and Subsection 500.3.05.AM.d.5).

12. For all mass concrete construction, the TCP shall be developed by a Professional Engineer, licensed in the State of Georgia, who shall be competent in the modeling, design, and temperature control of mass concrete with at least three mass concrete projects experience that can be verified by the Department.

Place no concrete until the mass concrete mix design and the proposed TCP is reviewed and approved by the Engineer. If concrete design mixture is changed, the TCP must be updated and approved by the Engineer.

d. Temperature Monitoring and Recording System

1. Install within the concrete placed in each mass pour and in the surrounding environment of the concrete, temperature sensing devices (thermocouples) of a type approved by and at locations based on the plan approved by the Engineer.
2. The sensing system will contain as a minimum two independent sets of sensing devices in order to assure readings if one of the systems fail. The sensing devices shall be accurate to within 2°F range.

3. Thermocouples shall be placed at the centroid of the pour, or wherever the point of expected maximum temperature is anticipated. Additional thermocouples shall be placed on the exterior to monitor the maximum temperature differential. Ensure the thermocouples are placed at a depth of 2 to 6 inches below the surface.

4. The temperature monitoring and recording system for mass concrete shall consist of temperature sensors connected to a data acquisition system capable of printing, storing, and downloading data to a computer. Data shall be printed and submitted to the Engineer daily with a copy sent to Office of Materials and Testing.

5. Two independent sets of sensing devices shall be placed at each of the following locations and readings to be taken hourly: (1) center of the mass pour; (2) midpoint of the side which is the shortest distance from the center; (3) midpoint of the top surface; (4) midpoint of the bottom surface; and (5) corner of the mass pour which is furthest distance from the center. Ensure the thermocouples are placed at a depth of 2 to 6 inches below the surface.

e. **Placing and Curing Mass Concrete**

When placing and curing mass concrete do the following:

1. Maintain a temperature differential of 35 °F or less between the interior and exterior portions of the designated mass elements.

2. Monitor and maintain records of the concrete temperature, beginning with casting and continuing until the maximum temperature is reached and begins decreasing to a differential of no more than 35°F from the mean annual ambient temperature of the surrounding environment, for three consecutive days.

3. The contractor shall suggest consolidation techniques based on the placement technique to be used for mass concrete. The consolidation technique shall be reviewed and approved by the Engineer before start of placement of mass concrete. Slump tests or slump-flow (ASTM C 1611) tests, as applicable, shall be used to provide quality control from batch to batch.

4. Maintain a minimum concrete placement rate of 30 cubic yards per hour or as designated on the plans or in the Special Provisions. Any requested change from this placement rate is to be approved by the Engineer.

f. **Acceptance**

Mass concrete shall conform to the concrete acceptance criteria and the temperature requirements as stated earlier to prevent delayed ettringite formation (DEF) and thermally induced stress cracks.
If the Contractor fails to conform to any of the above temperature requirements in any one pour, any additional mass concrete pours will cease. The Engineer may, at its sole discretion, direct that the concrete be removed or otherwise mitigated, at no cost to the Department. The contractor shall revise the Thermal Control Plan and design calculations to correct the problem and resubmit the revised Thermal Control Plan. Mass concrete placement shall not begin until the Engineer has approved the revised Thermal Control Plan. No extension of time or compensation will be made for any rejected mass concrete element or revisions of the Thermal Control Plan.

Office of Materials and Testing
Add the following Subsections to Section 500:

500.1 General Description
This work includes furnishing ultra high performance concrete (UHPC) field cast joints to accelerate bridge construction.

500.1.02 Related References
A. Standard Specifications
   Section 109—Measurement and Payment

500.1.03 Submittals
I. Ultra High Performance Concrete
   1. Documented experience of manufacturing UHPC for at least five projects.
   2. UHPC mix design in accordance with the material performance measures stated in this specification.
   3. For UHPC mixed at the site, documentation of equipment meeting the UPHC Manufacturer’s recommendations.

J. UHPC Pour Details
   Provide details for placement of UHPC. Start placement of UHPC at the lowest pont of bridge and limit length of UHPC pours to a maximum of 10 feet horizontal.

500.2 Materials
Ensure that materials for Ultra High Performance Concrete (UHPC) meet the following Specifications:

The material shall be Ultra High Performance Concrete with all components supplied by one manufacturer. Materials commonly used in UHPC include: fine aggregate, cementious material, super plasticizer, accelerator and steel fibers (deformed, specifically made for steel reinforcement of concrete). The Contractor is responsible for UHPC mix design and ensure material meets:

<table>
<thead>
<tr>
<th>Minimum Compressive Strength (ASTM C39)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat-Treated*</td>
<td>≥ 25 ksi</td>
</tr>
<tr>
<td>Not Heat-Treated</td>
<td>≥ 21 ksi</td>
</tr>
<tr>
<td>Not Heat-Treated 4 day</td>
<td>≥ 12 ksi</td>
</tr>
<tr>
<td>Prism Flexural Tensile toughness (ASTM C1018**, 10 in. span)</td>
<td>$I_{30} \geq 48$</td>
</tr>
</tbody>
</table>
Long-Term Shrinkage (ASTM C157; initial reading after set) ≤ 800 microstrain
Chloride Ion Penetrability (ASTM C1202) ≤ 250 coulombs
Chloride Ion Penetrability (AASHTO T259; 1/5 in. depth) < 0.07 oz/ft³
Scaling Resistance (ASTM C672) y < 3
Abrasion Resistance (ASTM C944 2x weight; ground surface) < 0.025 oz. lost
Freeze-Thaw Resistance (ASTM C666A; 600 cycles) RDM > 96%
Alkali-Silica Reaction (ASTM C1260; tested for 28 days) Innocuous

* Heat-Treated – According to manufacturer’s recommendation, temperature not to exceed 250°F
** This ASTM test has been discontinued. The Department continues to require it while options are explored for its replacement.

Provide a UHPC mix design that contains steel fibers at a minimum of 2% by total volume of UHPC.
Provide certification of UHPC.

A minimum of 12 cylinders 3 in. X 6 in. shall be cast.
All cylinders shall be cured using the same method of curing proposed to be used in the field. The temperature during curing shall be within 18°F of the low end of the proposed temperature range for curing in the field. Test 2 cylinders each testing day. Test at 4 days, 7 days, 14 days and 28 days. Measure compressive strength in accordance with ASTM C39. Compressive strength shall meet 12 ksi minimum at 4 days and 21 ksi minimum at 28 days. Only a UHPC mix design that passes these test may be used in the work.

Cast 6 additional cylinders 12 in. diameter and 7½ in. deep. Each cylinder shall have one 32 in. long epoxy-coated reinforcing bar cast in the center of the circular face. The axis of the bar shall be perpendicular to the finished surface. Three (3) of the bars shall be #6 bars embedded 5 inches deep and 3 of the bars shall be #4 bars embedded 3 inches deep. Keep cylinders wet for 4 days prior to testing. Perform test as soon as practical once samples have reached a minimum compressive strength of 12 ksi. This test is a pullout test. The samples pass if the bars yield without the UHPC failing and without the bars pulling out of UHPC.

Results of these tests shall be conducted by a GDOT approved testing firm. Submit results for review and approval to the Engineer a minimum of 60 days prior to use of UHPC in the field.

500.3 Construction Requirements
500.3.01 Personnel

A. Supervision, Personnel, and Skilled Workers

4. Provide a manufacturer’s representative supplying the approved UHPC who is knowledgeable in the supply, mixing, delivery, placement and curing of UHPC material. This representative shall be on site during all placement of UHPC.

500.3.03 Preparation

A. Pre-Pour Meeting

Prior to the initial placement of the UHPC, conduct an on site meeting with a manufacturer’s representative supplying the approved UHPC and the Engineer. The objective of the meeting will be to clearly outline the procedures for mixing, transporting, finishing and curing of the UHPC material.
500.3.05 Construction

AM. Form Work, Batching and Curing

The design and fabrication of forms shall follow approved shop drawings and shall follow recommendations of the manufacturer. All forms for UHPC shall be constructed from plywood unless otherwise shown in the plans. The forms shall be coated to prevent absorption of water. Provide water tightness of forms to prevent loss of UHPC during pours.

Follow batching sequence as specified by the supplier and approved by the Engineer. The surface of UHPC field joints shall be filled flush to plus 1/4 in. above surface of bridge deck.

Cure UHPC in form according to Manufacturer’s recommendations and as approved by the Engineer to attain 28 day strength listed herein. A continuous curing temperature of a minimum of 60°F is recommended.

500.3.06 Quality Acceptance

A. UHPC

Measure the slump flow on each batch of UHPC. The slump flow will be conducted using a mini-slump cone. The flow for each batch shall be between 7 in. and 10 in. Record slump flow for each batch and submit to the Engineer.

Make four sets of compressive strength test samples for each day of placement. Each set consists of 3 cylinders 3 in. X 6 in. Cure all cylinders in an environment similar to material placed and approved by the Engineer. Test the first set of cylinders as directed by the Engineer. Test second set of cylinders at 28 days. The third set of cylinders will be submitted to GDOT Office of Materials and Testing between the 4th day and the 14th day. The fourth set will be treated as a reserve set.

500.5 Payment

This Work will be paid for at the Contract Price per Lump Sum, complete in place and accepted.

Payment is full compensation for all things, including incidentals, and direct and indirect cost, to complete the Work.

Payment will be made under:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Ultra High Performance Concrete, Br No -</td>
<td>Per lump sum</td>
</tr>
</tbody>
</table>
Add the following to 511.2 Materials, B. Fabrication:

2. **Reinforcement Steel Couplers.** When couplers are indicated on the Plans, use mechanical butt splices from an approved source listed on QPL 93.

   Provide mechanical butt splices which develop a minimum of 125% of the guaranteed yield strength of the reinforcing steel to be spliced. Limit the total slip of the reinforcing bars within the splice sleeve after loading to 30 kips per square inch (207 MPa) and relaxing to 3 kips per square inch (21 MPa) to no more than the following, as measured between gauge points clear of the splice sleeve: 0.010 of an inch (.25mm) for reinforcing bars no. 14 (43) or smaller, or 0.030 of an inch (.76mm) for reinforcing bars no. 18 (57).

Prior to installation on GDOT projects, the contractor is required to submit job-control samples for testing to the Office of Materials and Testing. This is to ensure that the installer is qualified to construct the units. Make test specimens in the presence of the Engineer or his authorized representative using reinforcing steel consigned for the work. A test specimen consists of a splice made at the job site to connect two 24 inch (600mm) or longer bars using the same splice materials, position, location, and equipment, and following the same procedures to be used to make splices in the work. Prior to incorporating couplers into the work, make and test three specimens that meet the above criteria.

Perform all testing required above by the Office of Materials and Testing or at a testing laboratory approved by the Department.

If threaded couplers are used, equip them with approved devices which will prevent rotation after installation.

After installation, clean all couplers with a power wire brush or by other approved methods and recoat the couplers with a material prepared and recommended by the coating manufacturer.

Install the couplers in strict accordance with the manufacturer’s instructions and as approved by the Engineer.

All costs for the couplers, test samples (including reinforcing steel for tests) and testing of couplers shall be included in the costs of reinforcing steel.
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  

SPECIAL PROVISION  

PROJECT NO.:  
P.I. NO. 0013545  

Section 581—Pot Bearings  

Delete Section 581 in its entirety and add the following:  

Disc Bearings  

581.1 General Description  
This work includes furnishing and installing disc bearings (fixed and expansion types). Use the quality, type, and size designated in this Specification, on the Plans, or ordered by the Engineer.  

581.1.01 Definitions  
General Provisions 101 through 150.  

581.1.02 Related References  
A. Standard Specifications  
   Section 501—Steel Structures  
   Section 506—Expanded Mortar  
   Section 535—Painting Structures  
   Section 851—Structural Steel  
   Section 852—Miscellaneous Steel Materials  
   Section 885—Elastomeric Bearing Pads  
   Section 886—Epoxy Resin Adhesives  
   Section 887—Bearing Plates with Polytetrafluoroethylene Surfaces  
B. Referenced Documents  
   ASTM A 709 Grade 36 (ASTM A 709M Grade 250)  
   A 709 Grade 50 (A 709M Grade 345)
581.1.03 Submittals
Provide the following reports to the Project Engineer and the Office of Materials:

- Certified test reports
- Materials certificates
- Certificate of Compliance to conform with the requirements in this Specification
- Shop drawings
- Certification

A. Shop Drawings
Before fabricating the bearings, submit to the Engineer Shop Drawings according to Subsection 501.1.03.B, “Shop Drawings.” Include the following on the drawings:

- Bearing plan and elevation
- Complete details and sections that show the materials incorporated into the bearing
- ASTM or other material designations
- Vertical and horizontal load capacity
- Rotation and translation capacity
- Compression stress on sliding surfaces and elastomeric surfaces at maximum and minimum design loads
- Complete design calculations
- Complete erection and installation procedure

B. Certification
Have the disc bearing manufacturer furnish the following to the Project Engineer and the Office of Materials:

- Certified test reports
- Material certificates
- Certificate of compliance to conform with these Specifications for each bearing furnished

581.2 Materials
Ensure that materials meet the requirements of the following Specifications:

<table>
<thead>
<tr>
<th>Material</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Painting</td>
<td>535</td>
</tr>
<tr>
<td>Structural Steel</td>
<td>851</td>
</tr>
<tr>
<td>Anchor Bolts, Nuts, and Washers</td>
<td>852.2.02</td>
</tr>
<tr>
<td>Elastomeric Bearing Pads</td>
<td>885</td>
</tr>
<tr>
<td>Epoxy Resin Adhesives</td>
<td>886</td>
</tr>
<tr>
<td>Bearing Plates with PTFE Surfaces</td>
<td>887</td>
</tr>
</tbody>
</table>

A. Metals
Use the stainless steel sliding surfaces indicated below:

- **Stainless Clad Steel Plate**: Minimum eight percent stainless steel conforming to the requirements of ASTM A 264 (both Shear Strength and Bond Strength tests in 8.13 and 8.14 of ASTM A 264 are required). Use stainless steel cladding that meets Type 304. Use backing steel (base metal) that meets ASTM Designation A 709 Grade 50W(A 709M, Grade 345 W).

- **Stainless Steel Plate Welded To A Steel Backup Plate**: Use at least 16 gage (1.6 mm) thickness of the stainless steel plate that meets ASTM 240 Type 304. Use steel backing plate that meets ASTM Designation A 709 Grade
Section 581—Pot Bearings

50W (A 709M Grade 345W) unless otherwise indicated on the Plans. Use qualified welders to weld the stainless steel plate to the steel backing. Furnish welding procedures and welder qualification documents to the Department for review and approval prior to fabrication. Weld entirely around the perimeter of the stainless steel plate.

- **Solid Stainless Steel Plate**: Mill-finish the stainless steel sliding surfaces to a maximum surface roughness of 20 micro-inches (0.50 µm), RMS, according to the requirements of ANSI Standard B 46.1. Remove and replace, at no additional cost to the Department, bearing plates whose stainless steel sliding surfaces have been scratched or damaged.

### B. Structural Steel

Use structural steel for the masonry plates and the components of the bearings that meet the requirements of these ASTM Specifications:

- ASTM A 709, Grade 36 (ASTM A 709M, Grade 250)
- A 709, Grade 50 (A 709M, Grade 345)

Machine the steel plates confining the disc from solid steel plates.

### C. Anchor Bolts

Use anchor bolts, including nuts and washers, that meet the requirements of Subsection 852.2.02.

### D. Polyether Urethane Elastomeric Disc

Ensure that the disc material is 100 percent polyether urethane meeting the following Specifications:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Range of Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness, Durometer D</td>
<td>ASTM D 2240</td>
<td>62 + or -2</td>
</tr>
<tr>
<td>Tensile Stress psi at 100% elongation at 200% elongation</td>
<td>ASTM D 412 Pulled at 20 in/min. (pulled at 8.5 mm/s)</td>
<td>2,030 minimum 3,771 minimum (14 minimum) (26 minimum)</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D 412</td>
<td>5,000 minimum (34,5 minimum)</td>
</tr>
<tr>
<td>Ultimate Elongation, %</td>
<td>ASTM D 412</td>
<td>220 minimum</td>
</tr>
<tr>
<td>Compression Set, 22 hours at 159 degrees F., % (%)</td>
<td>ASTM D 395</td>
<td>40% maximum</td>
</tr>
<tr>
<td>Compression Strain, % at 5,000 psi stress* (35 MPa)</td>
<td>Strain % 8.0 min 15.0 max</td>
<td></td>
</tr>
</tbody>
</table>

* Compression stress is based on the net plan area of the rotational element and the compressive strain is the percentage of the original thickness. Gross bearing dimensions shall have a tolerance of -0 inch to + 1/8 inch (-0 mm to +3 mm).

### E. Shear Restriction Mechanism

Design a shear restriction mechanism to take horizontal forces at all possible vertical loads that consists of a pin connected to the bottom plate and a ring connected to the upper bearing plate.

### F. Expanded Mortar

Set anchor bolts in preformed or drilled holes using expanding mortar that meets the requirements of Section 506.
G. Paint
Paint exposed steel of each bearing assembly other than stainless steel according to System VI of Section 535. Take care to keep Polytetrafluoroethylene (PTFE) or sliding surfaces free of paint.

H. Design and Applicable Codes
Design, fabricate, and erect disc bearings according to these Specifications and the applicable requirements of the following Standard Codes and Specifications.
- Section 501, including supplements
- Current AASHTO Standard Specifications for Highway Bridges

Additional design parameters with which the disc bearing manufacturer must comply:
1. Bearing on Concrete: Maximum bearing pressure is as indicated in AASHTO.
2. Polyether Urethane Disc: Design compressive strength is 5000 psi (35 MPa).
3. Virgin PTFE: Design compressive strength is 3,500 psi (25 MPa).
   a. Stainless Steel Sliding Surface: Accurate, flat surface with Brinnell hardness of 125 minimum.
      1) Stainless steel sliding surface to completely cover PTFE surface in all operating positions of the bearing.
      2) Position the stainless steel sliding surface so that the sliding movement causes the dirt and dust accumulation to fall from the surface of the stainless steel.
   b. PTFE Sliding Surface: Do not use holes or slots in the PTFE sliding surface.
   c. Static Coefficient of Friction: Under a load of 3,500 psi (25 MPa), do not exceed 4 percent for unfilled PTFE nor 8 percent of filled PTFE surfaces.
   d. Rotation: 0.03 radians maximum.

I. Substituted Bearings
Disc bearings may be substituted for the bearings shown on the Plans provided the bearings to be substituted are approved by the State Bridge Engineer and comply with the following:
1. Equal or better load carrying and moment capacity.
2. All control dimensions are maintained and bearings fit within the limits of detailed masonry plate.
3. Use filled or unfilled (recessed) PTFE.
4. Use Polyether Urethane disc material as a medium within the shear restricted disc bearing.
5. The Polyether Urethane disc shall be lined with PTFE on the bottom side of expansion guided bearings.
6. Do not use aluminum or aluminum alloy.
7. Equal or better than the pot bearings shown on the Plans in all structural respects and meets all design requirements.

581.2.01 Delivery, Storage, and Handling
A. Assembling and Marking
Have each disc bearing assembled at the plant, marked for identification, and delivered to the construction site as a complete unit.
Mark each bearing with permanent match-marks to indicate the normal position of the bearing.

B. Transportation, Storage, and Handling During Construction
Follow these guidelines to transport, store, and handle disc bearings during construction:
1. Protect each disc bearing from dust and moisture.
2. Store the PTFE surface in the shade to avoid the damaging effects of ultraviolet rays.
3. Protect the disc bearings from damage during construction and prevent contamination of the various components of the disc bearings. Ensure that the Fabricator also follows the above requirements. During transportation and storage, cover the bearings with moisture-proof and dust-proof covers.

### 581.3 Construction Requirements

#### 581.3.01 Personnel

**A. Skilled Representative**

Have the bearing manufacturer provide a skilled representative who is certified by the manufacturer to be experienced in similar installations.

The representative shall:

- Give aid and instruction during the disc bearing installation.
- Be present during the initial bearing installation.
- Be present during welding of the lower steel plates to the masonry plates, if not performed in the manufacturer’s shop.
- Remain on the job until the bearing installation proceeds without trouble and until the workmen are experienced with the work for each installation as determined by the Engineer.

Arrange to have the manufacturer’s skilled representative present whenever requested by the Engineer.

#### 581.3.02 Equipment

General Provisions 101 through 150.

#### 581.3.03 Preparation

General Provisions 101 through 150.

#### 581.3.04 Fabrication

**A. Polytetrafluoroethylene (PTFE)**

Ensure that the PTFE, including its connection to its backup material, conforms with the requirements of Section 887, except as modified in this Specification.

Have the PTFE sliding surface bonded under factory controlled conditions to a rigid backup material that can resist bending stresses of the sliding surfaces.

As an alternate, PTFE material of twice the thickness specified above may be recessed for half its thickness in the backup material. Ensure that it is at least 1/8 in (3 mm) thick and that the PTFE sliding surface is bonded under factory controlled conditions.

1. When shown on the Plans, weld the lower steel plate to the masonry plate before installing the disc.
   - If welding procedures established and approved by the Engineer restrict the temperature of the bond area to no greater than 300 °F (150 °C), welding to steel plates with a bonded PTFE surface is permitted.
   - Use temperature-indicating wax pencils or other suitable means to determine the temperature.
2. After fabricating the backup material, plane it before bonding the stainless steel or PTFE to a true plane surface.
3. Have the PTFE sheets bonded at the bearing manufacturer’s factory under controlled conditions in accordance with the written instructions of the manufacturer of the approved adhesive system.
4. When epoxy bonding PTFE sheets, ensure that the side of the PTFE sheet to be bonded to the metal is factory treated by the sodium naphthalene or sodium ammonia process.
5. After the bonding operation, ensure that the PTFE surface is smooth, flat, and bubble free. Polish the filled PTFE surfaces.
6. Positively locate the elements of the bearing in the bearing manufacturing and assembling.
7. If using bearings other than those detailed on the Plans, obtain approval before constructing the substructure upon which the bearings will be installed.

8. Have each bearing assembled at the manufacturer’s plant, marked for identification, and delivered to the construction site as a complete unit.
   Ensure that the bearings have permanent match-marks to indicate the normal position of the bearing.

581.3.05 Construction

A. Erection

Place bearings at their proper locations before erecting the superstructure supported by the bearings.

1. Install Pier Tops
   Install pier tops horizontal at the correct elevation with a plus or minus tolerance of zero. Do not install the masonry plates until the Engineer accepts the pier tops.

2. Install the Anchor Bolts
   Cast anchor bolts in the concrete or set them in preformed holes, unless otherwise shown on the Plans. If setting them in preformed holes, fill the preformed holes in the concrete substructure with epoxy grout.
   a. Insert the anchor bolts to the prescribed depth.
   b. Place additional grout as required in the annular space around the anchor bolts until the grout is well packed and flush with the top surface of the concrete.
   c. Wipe clean the exposed surfaces of the anchor bolts and substructure. Do not allow a load on grout that has not been in place at least 7 days.

3. Install Masonry Plates
   Set the masonry plates to the proper elevation on the previously finished concrete pads.

4. Install the Bearings
   a. Place the bearing at the predetermined locations when erecting the superstructure.
   b. Remove the temporary restraints as directed by the bearing manufacturer.
   c. Adjust the bearings as follows:
      • Adjust the expansion bearings from the normal position at 60 °F (15 °C) to allow for the ambient temperature during erection or casting.
      • Adjust the disc bearings to allow them to move when dead loads are applied. Ensure that the bearing is properly positioned and parallel (free from rotation) after applying the dead load.
      • Adjust the bearings horizontally on the masonry plate to properly fit the superstructure members being erected.
   d. After adjustments and approval by the Engineer, weld the bearings to the masonry plate.

581.3.06 Quality Acceptance

Instruct the manufacturer to furnish facilities to test and inspect the completed bearings in the plant or at an independent test facility. An approved testing laboratory or the manufacturer supervised by an approved independent expert shall perform the testing.

Follow these testing guidelines:

- Instruct the manufacturer to allow the Engineer and Inspectors access to the plant and test facilities.
- Furnish certified test reports, materials certificates, and a certificate of compliance to conform with the requirements in the Specifications.
- Perform testing according to Section 887 and this Specification. The Department reserves the right to sample and test the material and disc bearing assemblies as shown in Section 106.
- Test complete bearing assemblies or a specially manufactured disc bearing prototype that has a capacity of 400 kips (181 000 kg).
Successfully tested full-size bearings that meet the requirements of this subsection and have no damaged components, finishes, or surfaces may be used in construction. Provide prototype disc bearings, if used, at no additional expense to the Department.

Specific Items tested are as follows:

A. **Coefficient of Friction**

   Perform tests to determine the static coefficient of friction of the first movement under a load of 3,500 psi (25 MPa) on a disc area applied continuously for 12 hours before testing. Determine under a load of 2,000 psi (14 MPa) on a disc area the following:

   1. The static coefficient of friction value shall not exceed 10 percent for filled PTFE surfaces and 6 percent for unfilled PTFE surfaces.
   2. The first movement static and dynamic coefficient of friction at a sliding speed of less than 1 in per min (0.4 mm per sec). Values shall not exceed 10 percent for filled PTFE surfaces and 6 percent for unfilled PTFE surfaces.
   3. The static and dynamic coefficient of friction is determined after the bearing is subjected to 100 design movements at a speed of less than 1 ft per min (5 mm per sec). Values shall not exceed those indicated in step 2 above. Signs of bond failure or other defects are cause for disc bearing rejection.

B. **Proof Loading**

   Perform, under maximum design loads, proof loading and compression deflection tests on a full-size disc bearing.

C. **Rotation**

   The Polyether Urethane element shall be capable of retaining initial contact with the steel bearing plates through the rotational range under a compressive load equal in magnitude to the design load.

D. **Cold Flow**

   Subject an approved sample of filled PTFE or unfilled PTFE to a static pressure of 3,500 psi (25 MPa) for at least 24 hours. Ensure that the PTFE material is bonded or mechanically connected to its backup material in the same way as the disc bearing.

   Apparent cold flow of the PTFE material is cause for disc bearing rejection.

581.3.07 **Contractor Warranty and Maintenance**

General Provisions 101 through 150.

581.4 **Measurement**

Disc bearing assemblies are measured by Lump Sum for each bridge. Determine the actual quantities required before submitting the bid.

581.4.01 **Limits**

General Provisions 101 through 150.

581.5 **Payment**

The work in this Specification will be paid for on a Lump Sum basis.

Payment is full compensation for:

- Furnishing materials and equipment including structural steel components of the bearings, masonry plates, top plates, sole plates, PTFE, Polyether Urethane Disc, anchor bolts, and welding
- Designing the disc bearing
- Performing tests
- Furnishing prototype bearings and test samples
- Performing Work as described and specified in this Specification or the Plans
- Providing incidentals to complete the work
Section 581—Pot Bearings

Payment will be made under:

| Item No. 581 | Pot bearings, bridge No. ____ | Per lump sum |

581.5.01 Adjustments

General Provisions 101 through 150.
Delete Subsection 627.3.03.B and substitute the following:

B. Wall Design

Use the following design criteria for a Contractor designed wall:

1. Provide one of the following wall systems:
   - ARES (Tensar Earth Technologies)
   - Reinforced Earth Wall (The Reinforced Earth Company)
   - Sine Wall MSE Panel Systems (Sine Wall)
   - Stabilized Earth Wall (Vistawall Systems)
   - Tricon Retained Soil Wall (Tricon Precast)


3. Design the MSE wall to account for all live load, dead load and wind load from all traffic barrier, lights, overhead signs, sound barriers and other appurtenances located on top and adjacent to the wall. Design MSE walls to account for all external forces. Also, design bridge abutment walls for a lateral load as defined in the plans. If lateral load is not defined on plans then design bridge abutment wall for a lateral load equal to 5% of the dead load transmitted through the bearings, as reported on the bearing sheet of the bridge. This load shall be considered a destabilizing force for the entire reinforced mass as well as a load to be resisted by reinforcement attached to the back of the abutment seat. It should be applied at the top of the abutment seat.

4. Design MSE Walls within 100 feet of a bridge abutment for a minimum service life of 100 years.

5. Assume responsibility for all temporary shoring that may be necessary for wall construction. Design the shoring using sound engineering principles.

6. Use permanent concrete wall facing panels that are at least 5.5 in (137 mm) thick.

7. Provide a minimum length of soil reinforcement as defined in the plans. If the minimum is not defined in the plans, then provide a minimum length of soil reinforcement of 10 feet (3 m) or seven-tenths (0.7) of the wall height, whichever is greater.

8. Ensure that the special wall backfill extends a minimum of 12 in (300 mm) past the end of the soil reinforcement.

9. Use the Architectural treatment of facing panels as indicated on the Department’s drawings.
10. Provide internal walls to allow for future widening if shown on the wall envelope. Ensure the internal walls have galvanized wire or concrete facing. Ensure as a minimum that the facing of the internal walls extend to the back limit of the MSE Wall Backfill for the permanent wall.

11. Ensure the maximum panel area does not exceed 35 square feet (3.25 square meters).

12. Design the Traffic Barrier H or Coping B Parapet to satisfy the requirements of AASHTO LRFD Section A13.2-1 for a railing Test Level of TL-4 except that the Ft load shall equal 80 kips. Evaluate overturning and sliding using a 10 kip force distributed to a maximum length of the moment slab joint spacing.

13. A Foundation Investigation Report may be available from the Geotechnical Engineering Bureau of the Department. The information contained in this report may be used by the Contractor to assist in evaluating existing conditions for design as well as construction. However, the accuracy of the information is not guaranteed and no requests for additional monies or time extensions will be considered as a result of the Contractor relying on the information in this report.

14. Ensure the following requirements are met:
   - The gutterline grade on the proposed top of wall submitted matches the gutter elevations required by the plans.
   - The top of coping is at or above the top of coping shown on the envelope.
   - The leveling pad is at or below the elevation shown on the wall envelope.
   - Any changes in wall pay quantities due to changes in the wall envelope are noted in the contractor’s plans.
   - All changes in quantities due to the proposed walls being outside the wall envelope (step locations, ending wall at full panel, etc.) are shown as separate quantities.

15. Ensure the minimum embedment of the wall (top of leveling pad) is at least 2 feet (600 mm). If the soil slopes away from the bottom of the wall, lower the bottom of the wall to provide a minimum horizontal distance of 10 ft (3 m) to the slope. [i.e. a 2:1 slope in front of the wall requires 5 ft (1.5 m) of embedment; a 4:1 slope in front of the wall requires 2.5 ft (750 mm) of embedment]

16. If the Department's review of the submitted plans and calculations results in more than two submittals to the Department by the Contractor, the Contractor will be assessed for all reviews in excess of two submittals. The assessment for these additional reviews will be at the rate of $60.00 per hour of engineering time expended.
Georgia Department of Transportation

State of Georgia

Special Provision

PROJECT NO.:

P.I. NO.: 0013545

Section 865—Manufacture of Prestressed Concrete Bridge Members

Delete Subsection 865.1 and substitute the following:

This section includes the following requirements for precast-prestressed concrete bridge members and piling using High Performance Portland cement concrete as shown in the Plans:

- Manufacturing
- Inspecting
- Testing
- Marking
- Painting
- Rubbing as specified
- Plant handling
- Storing
- Shipping

The term “precast-prestressed concrete” is referred to as “prestressed concrete” in the rest of this Section.

Add the following to Subsection 865.2:

<table>
<thead>
<tr>
<th>Material</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete, Class AAA HPC</td>
<td>500</td>
</tr>
</tbody>
</table>

Add the following to the end of Subsection 865.2.01.B.7.a.6:

Optional Method of Curing for Release Strengths with HPC: Temperature match curing (“Sure Cure” or equivalent methods) is allowed for specimens used to determine when stress may be transferred to the concrete for High Performance Concrete Units.
Add Section 999 as follows:

999.1 General Description
This work includes furnishing full depth precast concrete bridge deck panels with field cast joints to accelerate bridge construction.

999.1.01 Definitions
General Provisions 101 through 150.

999.1.02 Related References
A. Standard Specifications
   Section 109—Measurement and Payment
   Section 500—Concrete Structures
   Section 511—Reinforcement Steel
   Section 801—Fine Aggregate
   Section 830—Portland Cement
   Section 853—Reinforcement and Tensioning Steel
B. Referenced Documents
   SOP-3, Standard Operating Procedures for Precast/Prestressed Concrete
   QPL 9 – Certified Prestressed and/or Precast Concrete Plants
   QPL 93 – Rebar Mechanical Butt Splices
   General Provisions 101 through 150.

999.1.03 Submittals
A. Precast Concrete Deck Panel Shop Drawings
   Submit shop drawings detailing the fabrication of the precast deck panels for approval of the Engineer. Include fabrication tolerances. Method for grinding to achieve deck profile and longitudinal grooving shall be detailed in the shop drawings.
B. Erection Drawings and Field Pour Details
   Submit erection drawings detailing the installation of precast deck panels and procedures for adjusting panels to fit the bridge deck profile shown in the plans. Provide installation tolerances for placement and adjustment of precast deck panels. Provide details for placement of field cast joints.
C. Accelerated Bridge Construction Schedule
Submit a detailed schedule for approval of the Engineer outlining construction operations from the time the road is closed to traffic until traffic is resumed. At a minimum, this schedule shall include the removal of existing bridge, construction of substructure, placement of beams, installation and adjustment of precast deck panels, installation of formwork, placement of endwalls and wingwalls, placement of field cast joints, placement of concrete barrier, endpost and barrier transition, placement of approach slabs and pavement.

**999.2 Materials**
Provide precast concrete deck panels in accordance with the plans and Specifications.

**999.2.01 Delivery, Storage, and Handling**
General Provisions 101 through 150.

**999.3 Construction Requirements**

**999.3.01 Personnel**
General Provisions 101 through 150.

**999.3.02 Equipment**
General Provisions 101 through 150.

**999.3.03 Preparation**
General Provisions 101 through 150.

**999.3.04 Fabrication**
General Provisions 101 through 150.

Apply the following tolerances for precast units, unless otherwise shown elsewhere in the plans:

1. **Thickness:**  
   Limit variation in as built panel thickness and thickness shown in the accepted shop drawings to plus 3/16 inch (4 mm) and minus 0 inches (0 mm).

2. **Horizontal Dimensions:**  
   Limit variation between as built panels and dimensions shown in the accepted shop drawings to no more than 1/4 inch (6mm). Squareness of the panel (measured along the diagonal length) shall be within 1/2 inch. Limit horizontal alignment (deviation from straight line parallel to centerline of member) to be no more than 1/8 inch per 10 feet, but not greater than 3/8 inch for the entire length. Greater deviation may be accepted if, in the Engineer’s opinion, it does not impair the suitability of the member for its intended use.

3. **Deck Surface:**  
   Deck surfaces must meet straightedge requirement in longitudinal and transverse directions in accordance with section 500.3.06.D of the Specifications

Fabricate the deck panels in a concrete fabrication plant that has been approved according to Laboratory SOP-3, Standard Operation Procedures for Precast Prestressed Concrete. See QPL 9 for a list of approved facilities.

**999.3.05 Construction**
Construct precast deck panel with field cast joints in accordance with the plans, Specifications and approved installation procedures.

Grind the bridge deck for profile improvement as required by the plans, in conformance with Section 500.3.06.E of the Specifications.
Saw cut transverse grooves into top of bridge deck using a mechanical cutting device after grinding. Saw cutting grooves shall conform to Section 500.3.05.T.9.C of the Specifications.

**999.3.06 Quality Acceptance**
See Sub-Section 500.3.06 for Quality Acceptance.

**999.3.07 Contractor Warranty and Maintenance**
General Provisions 101 through 150.

**999.4 Measurement**
Measurement is made as a unit, complete in place, for precast concrete bridge deck panels.

**999.4.01 Limits**
General Provisions 101 through 150.

**999.5 Payment**
This Work will be paid for at the Contract Price per Lump Sum, complete in place and accepted. Payment is full compensation for all things, including incidentals, and direct and indirect cost, to complete the Work.

Payment will be made under:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>999</td>
<td>Precast Concrete Bridge Deck, Br No -</td>
<td>Per lump sum</td>
</tr>
</tbody>
</table>
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 13-2

PAVING REST DETAIL
50' LB AT 12" ±
BETWEEN BEAMS--

50' IA AT END OF BEAM
(3 ON BULB TEE,
2 ON AASHTO SHAPES)---

1-505

1/2" R --

31/2" MIN" CL.

506B AT 18" ±,
ALTa TO GIVE 9"SPA

506A AT 18"

2" Cle
3 SIDES

DEPARTMENT OF TRANSPORTATION
ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 14-1
CSX SPECIAL PROVISION
PROTECTION OF RAILWAY INTEREST
Special Provision for Protection of Railway Interests

Widening and reconstruction of approximately 6.7 miles of I-85 from just north of SR 53 to just north of SR 11/US 129 Jackson County, Georgia. The work will require construction activities within the right of way of CSX Transportation at RR Inv. #937973S, Railroad Milepost GGM-0023.1 & RR Inv. #848483E, Railroad Milepost GGM-0023.09 in Jefferson, Georgia. The average train movement through this area is approximately 2 trains per day at typical speeds of 25 mph. There are no passenger trains at this location.

1. AUTHORITY OF RAILROAD ENGINEER AND HIGHWAY ENGINEER:

The authorized representative of the Railroad, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic and facilities including the adequacy of the foundations and structures supporting the railroad tracks and the necessity for flagging during construction.

The authorized representative of the Chief Engineer, hereinafter referred to as the Highway Engineer, shall have authority over all other matters as prescribed herein and in the Department’s Standard Specifications, current edition at the time of the project let date.

2. NOTICE OF STARTING WORK:

A. The Contractor shall not commence any work on Railroad right-of-way until it has complied with the following conditions:

   (1) Given the Railroad written notice, with copy to the Department, at the addresses shown below and to the Highway Engineer who has been designated to be in charge of the work, at least 10 working days in advance of the date proposed to begin work on Railroad right-of-way. If flagging is required, it may take up to 30 days to obtain flagging from the Railroad and no work shall be undertaken until flagging is present at the job site.

Notice to:                                                        Copy to:
Jeff Chafin                         State Utilities Engineer
Regional Engineer                              Georgia Department of Transportation
CSX Transportation, Inc.                              One Georgia Center 10th Floor
1250 Louisville Street                         600 West Peachtree Street NW
Montgomery, AL 36104                        Atlanta, Georgia  30308
(2) Obtained written authorization from the Railroad to begin work on Railroad right-of-way. Such authorization may include an outline of specific and general conditions with which the Contractor must comply, including but not limited to obtaining a Right of Entry.

(3) Obtained written approval from the Railroad of railroad protective and general liability insurance coverage as required by paragraph 11 herein.

(4) Furnished a schedule for all work within the Railroad right-of-way as required by paragraph 6 B (1) herein.

B. The Railroad’s written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad’s representatives who are to be notified as hereinafter required. Where more than one representative is designated, area of responsibility of each representative shall be specified.

3. INTERFERENCE WITH RAILROAD OPERATIONS AND PROPERTY:

A. The Contractor shall so arrange and conduct its work that there will be no interference with Railroad operations, including train, signal, and communication services, or damage to the facilities or property of the Railroad or tenants on the right-of-way of the Railroad. Whenever work is liable to affect such operations, safety, facilities, or property, the method of doing such work shall first be submitted to the Railroad Engineer for review and approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging and inspection by the Railroad shall be deferred by the Contractor until the flagging and inspection required by the Railroad is available at the job site.

B. Whenever work within Railroad right-of-way is of such a nature that impediment to Railroad operations such as use of runaround or detour tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct its operations so that such impediment is reduced to the absolute minimum.

C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations, facilities, and property of the Railroad, the Contractor shall make such provisions. If in the judgement of the Railroad Engineer, or in his absence, the Highway Engineer, such provision is insufficient, either may require or make such provisions as he
deems necessary. In any event, such unusual provisions shall be at the Contractor’s expense and without cost to the Railroad or the Department.

4. CONSTRUCTION PROCEDURES:

A. General:

Construction work and operations by the Contractor on Railroad right-of-way, or property, shall be:

(1) Subject to the inspection and approval of the Railroad.

(2) In accord with the Railroad’s most current version prior to project final plans approval by Railroad of Public Project Information For Construction and Improvement Projects That May Involve the Railroad and additional written outline of specific conditions if provided by the Railroad.

(3) In accord with the Railroad’s general rules, regulations, and requirements including those relating to safety, fall protection, and personal protective equipment. Safety guidelines are given in paragraph 10 herein.

(4) In accord with this special provision and Railroad Special Provision.

B. Track Clearances:

The minimum track clearances to be maintained by the Contractor during construction are shown on the highway project plans and included in project special provisions or other contract documents. Clearances less than these will not be permitted unless specifically authorized by the Railroad Engineer. If minimum clearances are not stated in project plans and or contract documents, then such clearances shall be specified by the Railroad Engineer.

C. Temporary Excavation:

The subgrade of an operated track shall be maintained with edge of berm at least 10 feet from centerline of track and not more than 24 inches below top of rail. The Contractor will not be required to make existing section meet this specification if the existing section is substandard, in which case the existing section will be maintained.

D. Excavation for Structures:

The Contractor will be required to take special precaution and care in connection with excavating and shoring pits for construction of bridges, walls, footings, drainage pipes or structures under or adjacent to tracks, and any other structures or construction, including the driving of piles or sheeting, adjacent to tracks to provide adequate lateral and vertical support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The
procedure for doing such work, including need of and plans for excavation and shoring, shall first be approved by the Railroad Engineer, but such approval shall not relieve the Contractor from liability. Before submission of plans to the Railroad Engineer for approval, such plans shall first be reviewed by the Department’s Office of Bridge Design. Shoring plans submitted must be prepared, signed and sealed by a Registered Professional Engineer in the state of Georgia.

E. Demolition, Erection, Hoisting:

(1) Railroad tracks and other railroad property must be protected from damage during the procedure.

(2) The contractor is required to submit a plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must be shown.

(3) Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted.

(4) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under supervision of the Registered Professional Engineer submitting the procedure and calculations.

(5) A data sheet must be submitted listing the types, size, and arrangements of all rigging and connection equipment.

(6) A complete procedure is to be submitted, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.

(7) All erection or demolition plans, procedures, data sheets, etc. submitted must be prepared, signed and sealed by a Registered Professional Engineer in the state of Georgia.

(8) The Railroad’s representative must be present at the site during the entire demolition and erection procedure period.

(9) All procedures, plans, and calculations shall first be approved by the Highway Engineer and the Railroad Engineer, but such approval does not relieve the Contractor from liability.

F. Blasting:
SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS

(1) The Contractor shall obtain advance approval from the Railroad Engineer and the Highway Engineer for use of explosives on or adjacent to Railroad right-of-way. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:

(a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.

(b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

(c) No blasting shall be done without the presence of an authorized representative of the Railroad. At least 72 hours advance notice to the person designated in the Railroad’s notice of authorization to proceed (see paragraph 2B above) will be required to arrange for the presence of an authorized Railroad representative and such flagging the Railroad may require.

(d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains. Correction of any track misalignment or other damage to Railroad property resulting from the blasting shall be done as directed by the Railroad’s authorized representative at the Contractor’s expense. If its actions result in delay of trains, the Contractor shall bear the entire cost thereof.

(e) Storage of explosives on Railroad property will not be permitted.

(f) Furnish satisfactory evidence of XCU (explosion-collapse-underground damage) insurance coverage.

(2) The Railroad Representative will:

(a) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean-up.

(b) Have the authority to order discontinuance of blasting if, in its opinion, blasting is too hazardous or is not in accord with this special provision.

(3) Other Requirements:

Each Railroad has its own requirements for blasting which may include provisions in addition to the above. It is the contractor’s responsibility to contact the Railroad before performing any blasting and determine and comply with these requirements. The Contractor shall handle all matters relating to blasting with the Railroad and pay for all costs involved.
G. Maintenance and Repair of Railroad Facilities:

(1) The Contractor will maintain all ditches and drainage structures free of silt or other obstructions which may result from its operations and provide and maintain any erosion control measures as required by Highway Project plans and contract documents. The Contractor will promptly repair eroded areas within Railroad right-of-way.

(2) The Contractor will also repair, or cause to be repaired, any other damage to the property or facilities of the Railroad or its tenants.

(3) All such maintenance and repair of damages due to the Contractor’s operations shall be done at the Contractor’s expense.

H. Storage of Materials and Equipment:

Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights-of-way of the Railroad without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor’s expense, such material and equipment. All grading or construction machinery that is left parked unattended near the track or on the Railroad right-of-way shall be effectively immobilized so that it cannot be moved by unauthorized persons. Safety guidelines are given in paragraph 10 herein.

I. Cleanup:

Upon completion of the work, the Contractor shall remove from within the limits of the Railroad right-of-way, all machinery, equipment, surplus materials, falsework, temporary erosion measures, rubbish or temporary buildings of the Contractor, and leave said right-of-way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

5. DAMAGES:

A. The Contractor shall assume all liability for any and all damages to its work, employees, servants, equipment and materials caused by Railroad traffic.

B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

6. FLAGGING SERVICES:

A. When Required
Under the terms of the agreement between the Department and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations and facilities. In general, the requirements for flagging will be whenever the Contractor’s personnel or equipment are, or are likely to be, working on the Railroad’s right-of-way, or within distances as may be specified by Railroad’s authorized representative, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging. These requirements include situations where a crane, or other piece of equipment, is located such that its boom, or extremity, could move and pass within 20 feet of the centerline of a track or within a distance as may otherwise be specified by Railroad’s authorized representative. Safety guidelines are given in paragraph 10 herein. Normally the Railroad will assign one flagman to a project, based on an 8 hour workday and 40 hour workweek, but in some cases more than one may be necessary.

B. Scheduling and Notification

(1) Not later than the time that approval is initially requested to begin work on Railroad right-of-way, Contractor shall furnish to the Railroad and the Department a schedule for all work required to complete the portion of the project within Railroad right-of-way.

(2) The Contractor will be required to give the Railroad representative at least 10 working days of advance notice of intent to begin work within Railroad right-of-way in accordance with paragraph 2.A.(1) of this special provision. Once begun, when such work is then suspended at any time, or for any reason, the Contractor will be required to give the Railroad representative at least 3 working days of advance notice before resuming work on Railroad right-of-way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the contractor shall furnish the Highway Engineer a copy; if notice is given verbally it shall be confirmed in writing with copy to the Highway Engineer. If flagging is required, no work shall be undertaken until the flagman is, or flagmen are, present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 30 days to again obtain flagging from the Railroad. Due to Railroad practices, in some cases it may be necessary to give 6 days notice before flagging service may be discontinued and payment stopped.

(3) If, after the flagman is assigned to the project site, unusual circumstances or conditions arise which require the flagman’s presence elsewhere, then the Contractor shall delay work on Railroad right-of-way until such time as the flagman is again available. Any additional costs incurred by the Contractor resulting from such delays shall be the sole responsibility of the Contractor.
C. Payment

(1) The Contractor will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction. The Contractor shall not delegate this responsibility to any subcontractor or any other party. The Department will not reimburse the Railroad for any costs of the flagging which is required by the Contractor’s work. The cost of flagging service is approximately $162.50 per hour or $1300.00 per day based on an 8-hour work day and 40-hour work week. This cost includes the base pay for the flagman, overhead, and generally includes travel expenses, meals, lodging, equipment, etc. The charge to the Contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad’s employees who are available for flagging service at the time the service is required. Work by a flagman in excess of 8 hours per day and 40 hours per week may result in overtime pay at 1 ½ time the appropriate rate. Also, certain unusual conditions may arise which may result in overtime pay at 2 times the appropriate rate. Railroad work involved in preparing and handling bills may also be charged to the Contractor. Charges to the Contractor by the Railroad shall be in accordance with Federal-Aid Highway billing procedures and requirements as contained in applicable provisions of Part 140, Subpart I, and Part 646, Subpart B, of Title 23, Highways, of the Code of Federal Regulations, current edition, and shall further be on the same basis as the Department would be billed by the Railroad if the Department was paying for the charges.

(2) Option 1: The Contractor shall make advance deposit of funds based on estimate of the cost of protective flagging or other services as determined by the Railroad. The cost for Railroad services shall then be assessed by the Railroad against this advanced deposit. Upon completion of the Project, any unused funding will be returned to the Contractor. If the Railroad’s cost exceeds the advance deposit(s), a request will be made to the Contractor for additional funds or an invoice will be issued to the Contractor for final payment. The Contractor shall remit payment to the Railroad within thirty (30) days of receipt of either a request for additional funds or an invoice.

(3) Option 2: The contractor will be billed for flagging services on a periodic basis directly by the Railroad. The Contractor will promptly pay such bills within 30 days after each bill is rendered. Should the Contractor fail to pay the Railroad within 60 days after any bill is rendered, the Department may pay directly to the railroad any amounts due and deduct the amount of such payments from any funds due the contractor. This provision does not affect the obligation of the Contractor under his bond or the rights of the Railroad or the Department under the bond.

D. Verification

(1) The Contractor will review and sign the Railroad flagman’s semi-monthly time sheet, or other similar documentation, attesting that the flagman was present during the time recorded.
(2) The Railroad flagman assigned to the project will be responsible for notifying the Highway Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Highway Engineer will document such notification in the project records. When requested, the Highway Engineer will also sign the flagman’s time sheets showing daily time spent at the project site.

7. TRANSPORTING MATERIALS AND EQUIPMENT ACROSS TRACKS:

Any existing or temporary grade crossings, work mats, or other means needed during construction by the Contractor for transporting materials of any nature or equipment across railroad tracks or property of Railroad will be the responsibility of the Contractor to handle directly with the Railroad and to make all necessary arrangements and to obtain all required approvals. The Contractor may be required to execute a written agreement with the Railroad to cover such matters and appropriate time should be allowed for the preparation and handling of such agreement. The Contractor will be required to bear all costs incidental to such matters including but not limited to watching and flagging services by Railroad personnel, Right of Entry Agreements or Private Crossing Agreement. Agreement extensions may require additional payment. Safety guidelines are given in paragraph 10 herein.

8. WORK FOR THE BENEFIT OF THE CONTRACTOR:

A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the Department and the Railroad; or will be covered by appropriate revisions to same which will be initiated and approved by the Department and the Railroad.

B. Should the Contractor desire any changes in addition to the above, then it shall make separate arrangements with the Railroad for same to be accomplished, including any required flagging service, at the Contractor’s expense.

9. COOPERATION AND DELAYS

A. It shall be the Contractor’s responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging the schedule the contractor shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

B. No charge or claims of the Contractor against either the Department or the Railroad will be allowed for hindrance or delay on account of railway traffic, any work performed or to be performed by the Railroad, or other delay incident to or necessary for safe maintenance of railway traffic and facilities,
SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS

or for any delays due to compliance with this special provision.

10. SAFETY GUIDELINES:

A. Guidelines for Personnel on Railroad Right-of-Way

(1) All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Safety boots are strongly recommended.

(2) No one is allowed within 25 feet of the centerline of track without specific authorization from the flagman.

(3) All persons working near track while train is passing are to look out for dragging bands, chains and protruding or shifted cargo.

(4) No one is allowed to cross tracks without specific authorization from flagman.

(5) All welders and cutting torches working within 25 feet of the track must stop when train is passing.

(6) No loads will be suspended above a moving train.

B. Guidelines for Equipment on Railroad Right-of-Way

(1) No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15 feet of the centerline of track without specific permission from railroad official and flagman.

(2) No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

(3) All employees will stay with their machines when crane or boom equipment is pointed toward track.

(4) All cranes and boom equipment under load will stop work while train is passing (including pile driving).

(5) Swinging loads must be secured to prevent movement while train is passing.

(6) No loads will be suspended above a moving train.
SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS

(7) No equipment will be allowed within 25 feet of centerline of track without specific authorization of the flagman.

(8) Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman.

(9) No equipment or load movement within 25 feet or above a standing train or railroad equipment without specific authorization of flagman.

(10) All operating equipment within 25 feet of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.

(11) All equipment, loads, and cables are prohibited from touching rails.

(12) While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.

(13) No equipment or materials will be parked or stored on Railroad’s property unless specific authorization is granted from the Railroad Engineer.

(14) All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it cannot be moved by unauthorized persons.

(15) All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

11. INSURANCE: SPECIAL NOTE: PLEASE READ SUBPARAGRAPHS A, B, C & D IN THEIR ENTIRETY PRIOR TO ACQUIRING ANY INSURANCE POLICIES.

A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to carry insurance of the following kinds and amounts:

(1) Contractor’s Public Liability and Property Damage Liability Insurance.

The Contractor shall furnish to the Railroad and copy to the Department the certificate of insurance as evidence that with respect to the operations it performs it carries regular Contractor’s Public Liability Insurance and regular Contractor’s Property Damage Liability Insurance both providing for limits of not less than $5,000,000.00. The Contractor shall name CSX Transportation, Inc. as additionally insured.

CERTIFICATE HOLDER for (1) above is as follows:
(2) Workers Compensation Insurance.

The Contractor is required to have workers compensation insurance as described in state law and contractor insurance will waive subrogation against CSX Transportation, Inc where permitted by law.

(3) Railroad Protective Liability Insurance.

The Contractor shall furnish to the Railroad and copy to the Department on the Railroad Protective Insurance Policy with limits of liability as follows:

<table>
<thead>
<tr>
<th>COVERAGE</th>
<th>MINIMUM COMBINED LIMITS OF LIABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Injury Liability</td>
<td>$5,000,000.00 per occurrence</td>
</tr>
<tr>
<td>Property Damage Liability</td>
<td>$10,000,000.00 aggregate</td>
</tr>
<tr>
<td>Physical Damage to Property</td>
<td></td>
</tr>
</tbody>
</table>

The Standards for this protective insurance shall follow the requirements of Part 646, Subpart A, of Title 23, Highways, of the Code of Federal Regulations, current edition.

Railroad protective insurance shall be provided on “ISO-RIMA” (Insurance Services Office – Railroad Insurance Management Association) policy form No. CG 00 35 01 96. ISO Amendatory Endorsement No. CG 28 31 10 93 should also be included if a policy form number other than the foregoing is used. The equivalent of the foregoing will also be acceptable.

**BINDERS ARE NOT ACCEPTABLE FOR THIS COVERAGE**

**NAMED INSURED** for Railroad Protective Liability Insurance is as follows:

CSX Transportation, Inc.
500 Water Street, C907
Jacksonville, Florida 32202

B. Evidence of insurance as required in Paragraph 11.A.3. above shall be furnished to the address shown below for review and approval by the Railroad and copied to the Department:

Notice to:  
Copy to:
Ms. Victoria Matt         State Utilities Engineer
STV Inc.         Georgia Department of Transportation
Victoria.matts@stvinc.com                One Georgia Center 10th Floor
600 West Peachtree Street NW
Atlanta, Georgia 30308

The project number, description of the work and designation of the job site to be shown on all insurance certificates and policies are as follows:

**PI No. 0013545, Jackson County.** Widening and reconstruction of approximately 6.7 miles of I-85 from just north of SR 53 to just north of SR 11/US 129 Jackson County, Georgia. The work will require construction activities within the right of way of CSX Transportation at RR Inv. # 937973S, Railroad Milepost GGM-0023.1 & RR Inv. #848483E, Railroad Milepost GGM-0023.09 in Jefferson, Georgia. The average train movement through this area is approximately 2 trains per day at typical speeds of 25 mph. There are no passenger trains at this location.

C. The Contractor shall obtain insurance premium price quotes for Railroad Protective Liability Insurance for the same such project listed in Paragraph 11.B. above, but with the following limits of liability:

<table>
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<td>Physical Damage to Property</td>
<td></td>
</tr>
</tbody>
</table>

D. If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the Prime Contractor, shall be provided by or in behalf of the subcontractor to cover its operations. Endorsements to the Prime Contractor’s policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

E. All insurance hereinbefore specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the rights-of-way of the Railroad as evidenced by the formal acceptance by the Department and the Railroad. Insuring companies may cancel insurance by permission of the Department and Railroad or on THIRTY (30) days written notice to the Department and Railroad as follows:

**NOTICE TO:**

Ms. Victoria Matt
STV Inc.

**COPY NOTICE TO:**

State Utilities Engineer
Georgia Department of Transportation
12. **FAILURE TO COMPLY:**

In the event the Contractor violates or fails to comply with any of the requirements of this special provision:

(1) The Railroad Engineer may require that the Contractor vacate Railroad right-of-way.

(2) The Highway Engineer may withhold all monies due the Contractor on monthly statements.

Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Highway Engineer.

13. **PAYMENT FOR COST OF COMPLIANCE:**

No separate payment will be made for any cost incurred on account of compliance with this special provision. All such cost shall be included in prices bid for other items of the work.

Office of Utilities
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 17-1

SPECIAL PROVISION FOR NAVIGATOR ATMS INTEGRATION

SP 940 NaviGAtor Advanced Transportation Management System Integration
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 940 - NaviGAtor Advanced Transportation Management System Integration

Add the following:

940.1 General Description

This work includes coordination and integration of the project into the Department’s NaviGAtor advanced transportation management system to provide a complete and fully operational expansion of the Department’s NaviGAtor system as shown in the Contract Documents.

An example project follows:

Project scope includes installation of communications and field equipment that will provide information to the Transportation Management Center (TMC) and other facilities. The backbone of the communication system is a fiber optic cable infrastructure utilizing IP protocols over Ethernet technology. Ethernet switching equipment is used to transport the data from field devices to hub buildings. Routing equipment at the hub-building routes the data to the TMC and other facilities as needed. Cameras will provide video for traffic surveillance and vehicle detection. Changeable message signs and surveillance cameras will be controlled from the TMC. Ramp Metering Operation will communicate with the NaviGAtor System using center-to-center communication between NaviGAtor and ACTRA. ACTRA will communicate to the Ramp Metering firmware.

Each hub-building and assigned field devices are configured as an IP subnet within the GDOT overall network. Each field device (VDS processor, CMS controller, video encoder and decoder) incorporates its own IP address. Each field device will connect to a field switch at the equipment cabinet. The field switches (located in the equipment cabinets) will be daisy-chained using GBIC optical links to form a string. The ends of the daisy-chained switches are terminated at different hub buildings.

Make communications between the surveillance cameras and the network by means of Ethernet video encoders as shown on the Plans. Make communications from the VDS sites by means of Ethernet compatible video detection system processor(s) at each VDS site. Make communications between the CMS and the network by means of CMS controllers incorporating Ethernet ports. Make communication between the ramp metering operations and the network using an Ethernet field switch within the Ramp Meter Controller Cabinet.

At the hubs buildings, data communication arrives through the field switches using Layer 2 protocols. At the hub building routers will disseminate the data as needed across the backbone network.

Video decoders will be used for decoding of the video images at specific locations as shown on Project Plans.
At Project completion, a complete and useable system comprised of all components involved in the Project will be established.

940.1.1 Related References

A. Georgia Standard Specifications
Section 631 – Permanent Changeable Message Signs
Section 647 – Traffic Signal Installation
Section 797 – Hub Buildings
Section 925 – Traffic Signal Equipment
Section 935 – Fiber Optic System
Section 936 – Closed Circuit Television System (CCTV)
Section 937 – Video Detection System
Section 938 – Microwave Radar Detection
Section 939 – Communication and Electronic Equipment

B. Referenced Documents
Not applicable

940.1.2 Submittals
Submit six copies of the Integration Plan to the Engineer within 15 days of Contract Notice to Proceed. Submit six copies of the Acceptance Test Plan to the Engineer within 45 days of Contract Notice to Proceed.

940.2 Materials
Not applicable

940.3 Construction Requirements
Not applicable

940.3.1 Personnel
Not applicable

940.3.2 Equipment
Not applicable

940.3.3 Preparation
Not applicable
940.3.4 Fabrication

Not applicable

940.3.5 Construction

Not applicable

940.3.6 Quality Acceptance

If, in the Department’s judgement, the Contractor is not demonstrating progress in solving any technical problem, the Contractor may be directed to supply Factory technical representation and diagnostic equipment at no cost to the Department until satisfactory resolution of those defined problems.

The Engineer may direct any completed or partially completed portions of the project placed in service. Such action cannot be deemed an acceptance of the project in whole or in part, nor shall such action be construed as a waiver by the Engineer of any provision of the specifications. Assume no right to additional compensation or extension of time for completion of the work. Fully maintain all equipment until final acceptance, which includes but is not limited to equipment configuration and communication systems that are being integrated.

Perform all acceptance testing in the presence of the Engineer. Notify the Engineer of a desired acceptance test no less than fourteen calendar days prior to beginning the testing except for testing using the NaviGAtor software and existing NaviGAtor control center and communications equipment. For acceptance testing using the NaviGAtor software and existing NaviGAtor control center and communications equipment, coordinate the testing schedule with the Engineer no less than 30 days prior to the start of this testing. Do not conduct any testing during any State or Federal holiday.

Ramp Meter Testing

The Contractor shall submit to and obtain approval from the Engineer a ramp metering testing procedure for each specific ramp meter location. The testing procedure shall demonstrate that all components: hardware, cable, and connections furnished and installed by the contractor operates correctly and that all functions are in conformance with the specifications. Testing requirements are also outlined in Section 647.

The Department will provide controller firmware. The Contractor shall provide the controller to the Department. The Department will load the firmware into the controller and return to the Contractor

At a minimum, the Contractor shall demonstrate to the Engineer:

- The I-VDS and loop detectors at each location are functioning with expected accuracy as specified.
- The ramp meter signals function properly at all stages, including non-metering, startup, metering, and shutdown.
- In multi-lane configurations, the ramp meter can operate a simultaneous release of vehicles from all lanes and as well as an alternating or staggered release of vehicles from the two (or three) lanes.
- Queue detectors are functioning as specified, including both queue detection and queue override.
- The ramp meter functions properly for both local traffic responsive and time of day operations.
- The advance warning sign can be clearly seen and can be activated and deactivated properly.
- The ramp meter can communicate properly with the Hub/TMC.
- The traffic enforcement heads are operating as per the plans and can be seen by enforcement personnel.
The Contractor shall coordinate closely with the NaviGAtor system integrator for conducting ramp meter operational tests. Note: Pretest should be performed prior to calling the Engineer for inspection. Pretest shall be defined as all tests that will be performed during the Engineer’s inspection. Begin operational tests after the Engineer is satisfied that all work has been completed. After the ramp meter has been placed in operation, the contractor, in coordination with the system integrator, shall demonstrate that all equipment furnished and installed by the Contractor operates with all software and firmware as specified.

After successful completion of the test procedure, each ramp meter assembly shall go through a burn-in period for 30 consecutive days of normal ramp metering operations. During the burn-in period, the Contractor shall ensure that all Contractor-supplied equipment operates without failures of any type. If any equipment component malfunctions or fails to provide the specified functionality during the 30-day burn-in period, the Contractor shall replace or repair the defective equipment within 48 hours of notification by the Engineer.

After the malfunctioning component(s) have been repaired or replaced to the satisfaction of the Engineer, the Contractor shall begin a new 30-day burn-in period. The new 30-day burn-in period shall apply only to equipment components supplied by the Contractor. In the event of a failure or malfunctioning of equipment furnished by others which prevents the 30-day burn-in test from continuing, the Engineer will suspend the burn-in test and resume when the other equipment failures are corrected.

940.3.7 Contractor Warranty and Maintenance

Not applicable

940.3.8 Training

Not applicable

940.4 Measurement

The Department will pay all costs of coordination with and integration of the project into NaviGAtor under the integration pay item when the pay item is included in the Contract. The integration pay item is measured as a lump sum for all supplies, materials and subsistence it requires.

When the integration pay item is not included in the Contract, all costs of coordination with and integration of the project into NaviGAtor with all supplies, materials and subsistence it requires shall be included in other Contract items. The Department will make no separate payment for integration.

940.4.01 Limits

Not applicable

940.5 Payment

The Department will pay for integration that is complete, in place and accepted by the Department. Payment is full compensation for the work.

Payment for Section 940 is made under:

<table>
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<tr>
<th>Item No. 940 Integration</th>
<th>Lump Sum</th>
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– or –

Not applicable [when the Integration pay item is not included on the job.]
940.5.01 Adjustments

Not applicable
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 17-2
SUPPLEMENTAL SPECIFICATIONS

SS 926 Wireless Communications System
SS 936 Closed-Circuit Television (CCTV) Camera System
SS 939 Communications and Electronic Equipment
Delete Section 926 and substitute the following:

**926.1 General Description**

Furnish, install, test, and provide warranty and training for wireless communications equipment comprised of equipment and materials as specified herein and shown in the Contract documents.

**926.1.01 Definitions, Acronyms, and Abbreviations**

A. Definitions

1. **Wireless System, Type 1**: a 900 MHz, 2.4 GHz, or 5 GHz wireless Ethernet radio transceiver and associated equipment.
2. **Wireless System, Type 2**: a 2.4 GHz or 5 GHz broadband wireless Ethernet transceiver and associated equipment.
3. **Wireless System, Type 3**: a 2.4 GHz or 5 GHz broadband wireless Ethernet transceiver and associated equipment.
4. **Wireless System, Type 4**: a broadband cellular wireless Ethernet router and associated equipment.

B. Acronyms and Abbreviations

Refer to Sections 101.01 and 942.1.01.B for a list of acronyms, abbreviations, and terminology used in this section.

**926.1.02 Related References**

A. GDOT Standard Specifications

1. Section 639 – Strain Poles for Overhead Sign and Signal Assemblies
2. Section 682 – Electrical Wire, Cable, and Conduit
3. Section 694 – Weather Monitoring and Reporting System
4. Section 936 – Closed Circuit Television (CCTV)
5. Section 937 – Detection Systems
6. Section 939 – Communications and Electronic Equipment
7. Section 942 – ITS General Requirements

B. Referenced Documents

1. Refer to Section 942.1.02.B for a list of standards and documents referenced in this section.

**926.1.03 Submittals**

Refer to Section 942.1.04 for submittal requirements. Requirements for wireless system equipment, materials, and components are specified herein.
Section 926—Wireless Communications Equipment

926.2 Materials

926.2.01 Wireless Communications System Requirements

A. General

1. Comply with ISO 9001 or Six Sigma quality manufacturing requirements.

2. Provide only equipment and materials that are of new and of like kind and function provided by one manufacturer, using the same model, part number, and revision.

B. Overall System

1. Provide wireless system that supports the following site configuration types: PtP, PtMP (access point / subscriber unit) and repeater as shown in the Contract documents.

2. Provide a single-band or dual-band radio that is either integrated with an antenna unit or as an alternative a single radio with an external antenna.

3. Provide capability for the user to select transmit power output level in incremental steps up to the maximum transmit output power.

4. Provide maximum transmit power, antenna gain that provides an EIRP as permitted by FCC Part 15 for unlicensed frequencies. Select final transmit power and antenna gain based on manufacturer’s recommendation and distance and signal strength.

5. Provide a wireless link with path availability of 99.99% in worst-case weather conditions for the area where it is installed.

6. Provide wireless system with a minimum MTBF of 200,000 hours using Telcordia SR-332, latest version, or MIL-HDBK-217F standards.

7. Provide wireless system with dynamic frequency and channel selection capability based on interference detection, with a manual override option.

8. Provide wireless system with adaptive or automated modulation and space diversity capability for maximum throughput.

9. Provide wireless system with receive sensitivity that is adaptive.

10. Provide wireless system with a VSWR value not exceeding 2.0:1 for the specified radio frequency.

11. Design equipment for ease of maintenance. Ensure that all component parts are readily accessible for inspection and maintenance using hand tools. Provide test points for checking essential voltages, waveforms, signals, and similar data

12. Provide support for the following minimum network and security requirements:

a. Comply with IEEE 802.3 standards for Ethernet.

b. Comply with IEEE 802.1D (Ethernet Bridging) standard.

c. Comply with IEEE 802.1p (Traffic Prioritization/Quality of Service) standard.

d. Comply with IEEE 802.1q (Virtual LAN [VLAN]) standard.

e. Comply with IEEE 802.1d (Spanning Tree Protocol) and IEEE 802.1w (Rapid Spanning Tree Protocol) standards.

f. Comply with IEEE 802.3x (Full Duplex and Flow Control) standard.

g. Provide at a minimum AES-128 bit (AES-128) encryption capability, FIPS197, keys set through password-protected browser interface for PtP backhaul network. Minimum security for communications with WiFi units is WPA2.
h. Provide support for internal MAC address control list and RADIUS networking protocol for authentication, authorization, and accounting.

13. Provide wireless system that meets the following minimum radio configuration and management software requirements:
   a. Provide programming and software to make operational and support the wireless system with the following minimum features: radio and network configuration, diagnostic routines (i.e., bandwidth test, spectrum scan, and ping test), and alarm management.
   b. Provide capability to display or provide status information of indicators that include data port link activity, data port speed, and link status.
   c. Provide capability to display the following alarm features:
      i. Provide 24 hour monitoring capability for user-selected alarms.
      ii. Provide optional alarm notifications via email or text messages.

14. Provide wireless system with bi-directional communications.

15. Provide wireless system including connectors that are IP67 weathertight rated and UV stabilized.

16. Provide wireless system with alignment tool for aligning the antenna system. Provide alignment tool that consists of audible indicators, or as recommended by the manufacturer.

17. Equip wireless system with a minimum of one shielded Ethernet-port, using an IP67 rated RJ-45 weathertight connector or other Ethernet-compatible locking shielded and weathertight connector.

18. Comply with FCC Part 15.247 (ISM) requirements.

C. Type 1 Wireless System
   Meet the following system requirements, in addition to the requirements specified in Section 926.2.01.B:
   1. Provide a system that operates in the FCC unlicensed (license-exempt) ISM band of 900 MHz, 2.4 GHz, or 5 GHz.
   2. Provide aggregate system throughput of up to 10 Mbps in a LOS environment.
   3. Provide a flat panel type, single (H or V) or dual polarized (H+V), narrow beam-width antenna, Yagi, or omnidirectional or as recommended by the wireless radio manufacturer.
   4. Provide wireless system with minimum channel bandwidths of 5 MHz, 10 MHz, and 20 MHz.
   5. Provide wireless system with OFDM or DSSS modulation technology.

D. Type 2 Wireless System
   Meet the following system requirements, in addition to the requirements specified in Section 926.2.01.B:
   1. Provide a system that operates in the FCC unlicensed (license-exempt) ISM band of 2.4 GHz or 5 GHz.
   2. Provide aggregate system throughput of up to 50 Mbps in a LOS environment.
   3. Comply with IEEE 802.11a/n standard.
   4. Provide a 2x2:2 MIMO flat panel type, dual polarized (H+V), narrow beam-width antenna or alternative parabolic or as recommended by the radio manufacturer.
   5. Provide wireless system with minimum channel bandwidths of 5 MHz, 10 MHz, 20 MHz, and 40 MHz.
   6. Provide wireless system with OFDM modulation with BPSK, QPSK, QAM16, and QAM64.
   7. Provide wireless system that supports MCS with dynamic data rate selection.
   8. Provide wireless system with full support of SSL technology.
9. Provide wireless system that supports the following network requirements:
   a. Provide forward error correction capabilities with automatic retransmission.
   b. Provide dynamic allocation of uplink and downlink bandwidth.
   c. Provide capability for jitter correction to avoid delay fluctuation in video streams.
   d. Provide data burst transmission capability so that fragmented packets are transmitted together.
   e. Provide the capability to use a polling protocol to reduce packet loss due to RF collisions.
   f. Provide support for Layer 2 features including QoS and IGMP snooping to reduce un-needed multicast traffic.

10. Provide local and remote management capabilities through HTTP, Telnet, SSH, and SNMP.

E. **Type 3 Wireless System**

   Meet the following system requirements, in addition to the requirements specified in Section 926.2.01.B:
   
   1. Provide a system that operates in the FCC unlicensed (license-exempt) ISM band of 2.4 GHz or 5 GHz.
   2. Provide aggregate system throughput of up to 100 Mbps in a LOS environment.
   3. Comply with IEEE 802.11a/n standard.
   4. Provide a 2x2:2 MIMO flat panel type, dual polarized (H+V), narrow beam-width antenna or alternative parabolic or as recommended by the radio manufacturer.
   5. Provide wireless system with minimum channel bandwidths of 5 MHz, 10 MHz, 20 MHz, and 40 MHz.
   6. Provide wireless system with OFDM modulation with BPSK, QPSK, QAM16, and QAM64.
   7. Provide wireless system that supports MCS with dynamic data rate selection.
   8. Provide wireless system with full support of SSL technology.

   9. Provide wireless system that supports the following network requirements:
      a. Provide forward error correction capabilities with automatic retransmission.
      b. Provide dynamic allocation of uplink and downlink bandwidth.
      c. Provide capability for jitter correction to avoid delay fluctuation in video streams.
      d. Provide data burst transmission capability so that fragmented packets are transmitted together.
      e. Provide the capability to use a polling protocol to reduce packet loss due to RF collisions.
      f. Provide support for Layer 2 features including QoS and IGMP snooping to reduce un-needed multicast traffic.

10. Provide local and remote management capabilities through HTTP, Telnet, SSH, and SNMP.

F. **Type 4 Wireless System**

   1. Provide an integrated broadband cellular wireless router only as listed on the GDOT QPL and as approved by the Department’s current cellular telecommunications service provider. No other devices are permitted.

   2. Provide wireless system meeting the following general requirements:
      a. Provide 4G LTE or greater throughput as specified in the Contract documents or directed by the Department.
      b. Provide a broadband cellular wireless router that meets the following minimum network standards and protocols:
         i. Comply with IEEE 802.3 standards for 10/100/1000 Mbps Ethernet.
         ii. Provide full support for SSL.
iii. Provide full support for IPsec and VPN functionality.
iv. Provide at a minimum AES-128 encryption capability.
v. Support MAC address filtering and ACL.
c. Provide capability for network traffic to be accessible via a public or private IP connection, via VPN tunnel with SSL, IPsec, and IP pass-through.
d. Equip wireless system with a minimum of one 10/100/1000 Base-T/TX, shielded Ethernet-port, outdoor-rated RJ-45 connector or other Ethernet-compatible weathertight connector.
e. Provide wireless system with visual status indicators that include Power, Signal, Ethernet Link, and Activity.

3. Provide wireless system meeting the following antenna requirements:
   a. Provide an external ruggedized antenna for broadband wireless operations meeting the following minimum requirements:
      i. A minimum gain of 4 dBi, vertical polarized.
      ii. Omnidirectional pattern.
      iii. Up to 100W power.
      iv. Multiband support including the 698 to 960 MHz and 1,700 to 2,700 MHz bands.
   b. Provide mounting hardware as recommended by the manufacturer.
   c. Provide RF coaxial cable as specified in Section 926.2.01.J.3 between the wireless router and the antenna.

G. Mechanical
   1. For non-integrated types provide a wireless radio that is capable of being rack- or shelf-mounted in a secure manner.
   2. Provide wireless equipment that is modular in design such that it can be easily replaced in the field.
   3. For Types 1 to 3 only, unit dimensions and weights shall be as follows:
      a. Maximum dimensions shall be 16 in (0.4 m) by 16 in (0.4 m) by 12 in (0.3 m) for integrated units, not including the antenna.
      b. Maximum weight shall not exceed 35 lb (16.9 kg).
   4. Use external screws, nuts, and locking washers that are stainless steel. Do not use self-tapping screws unless specifically approved by the Department.
   5. Use mounting hardware and parts made of stainless steel.
   6. Use materials in construction that are protected from fungus growth and moisture deterioration.
   7. Separate any dissimilar metals by an inert dielectric material.

H. Electrical
   1. Provide wireless radios and routers that meet all specified requirements when the input power is 120 VAC ±20%, 60 Hz ±3 Hz.
   2. Provide appropriate voltage conversion, PoE injectors, or other power supply hardware if the radio equipment or any radio-related ancillary devices require operating voltages other than 120 VAC or rely on PoE or PoE+.
   3. Provide voltage converters or PoE injectors that accept an input voltage of 120 VAC as noted above.
   4. Provide any required PoE or PoE+ devices that are 802.3af or 802.3at compliant, meeting the power requirements of the radio equipment.
   5. Provide PoE injector that can be either wall/panel mounted or DIN-rail mounted within the field cabinet.
Section 926—Wireless Communications Equipment


7. Provide devices that meet the requirements of Section 2.1.6, "Transients, Power Service," of NEMA Standard TS 2.

I. Mounting and Support Structure

1. Provide wireless equipment mounting hardware that is designed to mount to the support structure as shown in the Contract documents.

2. Provide pole mounting attachment hardware that meets the requirements of the wireless system survey and the wireless manufacturer.

J. Cabling and Surge Protection

1. Provide antenna coaxial cables as specified herein for external antenna (non-integrated radio and antenna) sites or outdoor-rated Category-6 cables for integrated radio/antenna sites.

2. Provide outdoor-rated, shielded Category-6 cabling from the PoE injector to the wireless radio meeting the following minimum requirements:
   b. Comply with ICEA S-56-434 standard or equivalent industry standard as approved by the Department for communications cables for outdoor use including weathertight, outdoor CMX UV-rated, abrasion-resistant jacket.
   c. Provide cable that is UL 444 sunlight resistant listed.
   d. Provide insulated No. 22 to 23 AWG, solid bare copper conductors with polyolefin insulation, arranged in four color-coded shielded twisted-pairs with drain wire incorporating a cross-web separator design.
   e. Provide modular IP67-rated shielded RJ-45 8P8C male push-pull connectors with eight-position non-keyed and eight gold anodized pins or other Ethernet-compatible locking weathertight connector.

3. Provide an RF coaxial cable meeting the following minimum requirements.
   a. Provide a cable that is flexible, low-loss, outdoor-rated and weathertight.
   b. Provide nominal impedance that is matched to the antenna’s impedance to minimize the VSWR.
   c. Provide a cable with a black UV-resistant polyethylene jacket.
   d. Provide a cable with a dual shield consisting of 100% foil and 88% braided.
   e. Provide shielding effectiveness of >90 dB.
   f. Provide solid bare, copper center conductor.
   g. Provide a characteristic impedance of 50 ohms, nominal.
   h. Provide a cable with maximum frequency of 6 GHz.
   i. Provide an attenuation of 3.9 dB/100 ft (at 900 MHz) or better. If cable length is shorter than 20 ft (6.1 m), the cable can be smaller in diameter with a maximum attenuation of 9.9 dB/100 ft.
   j. Provide a capacitance (conductor to shield) of 23.9 pF/ft or better, nominal.
   k. Provide an inductance of 0.060 µH/ft or better, nominal.
   l. Provide Type N connectors or as recommended by the manufacturer that are weathertight and factory installed on both ends with a maximum insertion loss of 0.2 dB.
   m. Provide maximum cable length of 10 ft (3.05 m) from radio to antenna (if not integrated) when radio is mounted on an external structure. Provide 100 ft (30.5 m) maximum length from radio to antenna when radio is mounted in the field cabinet and antenna is mounted on the structure.
4. Provide wireless system with surge protection that meets the following minimum SPD requirements.
   a. Category-6 Ethernet PoE Surge Protection
      i. Provide SPD that is listed per UL 497B.
      ii. Comply with TIA-568-B.
      iii. Comply with IEEE 802.3af or IEEE 802.3at as required.
      iv. Support 10Base-T, 100Base-T, and 1000Base-T transmission speeds.
      v. Provide a peak surge current rating (Imax) of a minimum of 10 kA (8/20 µs waveform).
      vi. Provide a clamping voltage of up to 90V ±20% for L-G and 20V ±20% for L-L
      vii. Provide surge protection for all connector pins.
      viii. Provide input and output connections with shielded RJ-45 connectors.
      ix. Provide an in-line, series-connected configuration.
      x. Provide system capable of being either wall/panel or DIN-rail mounted.
      xi. Provide an SPD that is constructed of aluminum metal housing.
   b. RF Coaxial Surge Protection
      i. Provide SPD that is listed per UL 497E.
      ii. Provide a rated nominal surge current (In) per UL 497E of 10 kA (8/20 µs waveform).
      iii. Provide a rated power/current (RF, DC) per UL 497E: VHF 375W, UHF (low) 250W, 800 MHz to 1 GHz 125W.
      iv. Provide a protection level of <1000V for up to 375W SPD.
      v. Provide an insertion loss of ≤0.2 dB over wireless system frequency range.
      vi. Provide SPD that supports a VSWR of 1.3:1.
      vii. Provide SPD with field replaceable gas discharge tube for maintenance.
      viii. Provide SPD with minimum environmental protection rating of IP65.
      ix. Provide SPD with mating connectors per antenna type.
   c. Provide hardware and materials to bond SPDs to the field cabinet ground buss bar.

K. Environmental
   1. Provide wireless equipment and components as specified herein that meet the following minimum operating ambient temperature range and humidity levels:
      a. −4°F (−20°C) through 131°F (55°C)
      b. Up to 95% relative humidity (non-condensing)
   2. Comply with NEMA 250, Type 4X corrosion requirements.
   3. Comply with IEC EN 61000-4-5 surge immunity testing requirements.
   4. Comply with NEMA TS 2 Sections 2.2.8 (vibration) and 2.2.9 (shock) test requirements.
   5. Provide wireless system that is capable of withstanding wind speeds of 100 mph (161 kph) with a 20% gust factor.
926.3 Construction

The construction and installation of the wireless system equipment, materials, components, and assemblies as specified herein shall meet the requirements in this section and the wireless system manufacturer’s installation requirements and recommendations.

926.3.01 Construction Requirements

A. General Construction

1. Provide, install, and test equipment and materials to provide a fully operational and functional wireless radio system. This includes installation of radio wireless radio equipment, mounting attachment hardware, power and data cables, test equipment, grounding and bonding, lightning suppression, and surge protection systems.

2. Prior to beginning installation, inspect each site to verify suitability of the design for installation, grounding, and lighting protection.

3. Adjust antenna polarities and channel plans on equipment to minimize interference from other sources, as applicable and determined by the wireless system survey.

4. Provide equipment that is modular in design such that it can be easily replaced in the field.

5. Label equipment with UV-resistant methods to identify each unit with name, model number, and serial number.

6. Provide connectors and harnesses that meet the following requirements:
   a. Provide external connections using weathertight connectors.
   b. Provide connectors that are keyed to preclude improper mating or coupling.
   c. Provide wires to and from the connectors that are color-coded or marked.
   d. Provide pins and mating connectors that are corrosion resistant.
   e. Provide solder type connections that are covered and protected by heat shrink tubing.

B. Wireless System Survey

1. Conduct wireless system survey if required by the Contract documents and upon approval of wireless system equipment and test equipment submittals.

2. Provide test equipment to conduct wireless system survey. Submit a list of equipment to the Department for approval prior to conducting the survey.

3. For Type 1, 2, and 3 only, survey wireless locations and provide a site-by-site analysis and overall system survey field report.
   a. Verify that the path is clear and provide calculations to show that there is sufficient fade margin to achieve the path availability and to meet overall network performance as specified herein under the expected weather events.
   b. Include an interference analysis of local RF conditions and a path analysis for each wireless node as shown in the Contract documents.
   c. Provide an interference analysis for each wireless node location to identify potential sources of interference. If the interference analysis shows possibility for interference at sites identified in the Contract documents, conduct in-field monitoring to determine whether actual interference exists.
   d. Include a field evaluation of the feasibility of using existing poles or structures for mounting the integrated wireless radio/antenna system.
   e. Recommend based on the survey whether a single or dual-band radio is required to meet performance requirements.
f. Determine whether repeaters are required as part of the field survey and report the results.

4. For Type 4 only, determine and verify broadband cellular coverage for each proposed site. Each site shall have sufficient signal strength to provide full performance of the wireless link.

5. Submit the wireless system survey report to the Department for review and approval. Do not purchase or install equipment related to the wireless network prior to the approval of the wireless system survey report. Refer to Section 942.1.04 for details on submittal requirements.

C. Radio Mounting
   1. Provide and install corrosion resistant radio mounts, standoffs, brackets, hardware, and grounding assemblies for the mounting surface shown in the Contract documents.

   2. Install radios as recommended by the manufacturer at specified locations as shown in the Contract documents.

D. Antenna Mounting
   1. Install antennas as recommended by the manufacturer. Permitting for attachment of wireless equipment on existing poles, if required, shall be the responsibility of the Contractor.

   2. Provide and install antenna mounts, standoffs, brackets, hardware, transmission line, hanger kits, grounding kits, and lightning suppressors for the mounting surface shown in the Contract documents.

   3. Impact of wind loading on wireless performance mounted on poles shall take into account vibration, swaying, and bending of poles.

   4. Align antenna for each path and compare measured signal strengths with path calculations.

   5. For Type 4 only, mount the antenna on the field cabinet. Use threaded stub mount on the cabinet for vandal-resistant mounting.

E. System Power and Grounding
   1. Provide all power supplies and PoE injectors required and recommended by the wireless manufacturer.

   2. Coordinate with the Department to establish electrical utility service according to the NEC and as specified in Section 682.3.05.M.

      a. Verify with the local power service provider to ensure that the provided equipment is compatible with the installed equipment.

      b. Contractor shall be responsible for paying for electrical service as required from the time of testing up to the issuance of the MAL by the Department at which time the service provider account shall be transferred to the Department.

   3. Supply and install any additional equipment required for proper operation of the wireless system per the design.

   4. Comply with grounding and bonding requirements in Section 682.3.05.N for wireless system, structure, and field cabinet, and as required and recommended by the wireless manufacturer.

   5. If the field cabinet and associated entry port is not collocated on the same support structure as the radio, provide grounding and lightning protection at the bottom of the support structure.

F. System Optimization
   Finalize equipment alignment and settings at each site to provide a complete and operational system.

G. Cabling
   1. Provide conductors and wiring that meet NEC requirements.

   2. Provide copper-based Ethernet cables that do not exceed IEEE 802.3 distance limitations.
Section 926—Wireless Communications Equipment

3. Cut conductors to the proper length before assembly. It is not permissible to “double-back” conductors to take up slack inside the field cabinet.

4. Lace conductors neatly with nylon lacing or plastic straps.

5. Organize conductors neatly inside the field cabinet and secure cables with clamps.

6. Provide rubber grommets for drilled entrance holes in field cabinets, poles, conduit openings, and structures.

7. Provide service loops at connection points when connecting to hardware inside the field cabinet. No splicing of cables or exposed conductors is permitted.

8. Label cabling with weathertight and UV-resistant methods to identify conductors.

926.3.02 Equipment Configuration and Integration Requirements
Refer to Section 942.3.03 for equipment configuration and integration requirements.

926.3.03 Testing Requirements
Refer to Section 942.3.04 for testing requirements.

926.3.04 Training Requirements
Refer to Section 942.3.05 for training requirements.

926.3.05 Warranty and Maintenance Support Services
A. Warranty Requirements
   1. Provide a minimum warranty length of two years for the wireless system and associated components. If the manufacturer’s warranties for the components are for a longer period, those longer period warranties shall apply.
   2. Refer to Section 942.3.02 for general warranty requirements.

B. Maintenance Support Services
   Refer to Section 942.3.02 for maintenance support services requirements.

926.4 Measurement
The wireless system and training that are complete, in place, accepted, and of the kind, size, and type specified will be measured as follows:

A. Wireless System, Types 1, 2, and 3
   The wireless IP-based Ethernet system will be measured for payment by the number installed, complete, functional, tested and accepted. Unless otherwise specified in the Contract, furnish and install the following minimum items as part of a wireless system: a radio transceiver, antennas, antenna coaxial cables, Category-6 outdoor-rated cables, PoE injectors, power supplies, surge protection, attachment hardware, any pole attachment permit fees, and work, equipment, and appurtenances to provide a fully functional wireless communications system. The price bid shall also include radio configuration and management software, any licenses, programming, device cabling, and system documentation to be turned over to the Department, including shop drawings, operations and maintenance manuals, wiring diagrams, block diagrams, and other material necessary to document the operation of the applicable wireless radio system.

B. Wireless System, Type 4
   The broadband cellular wireless system will be measured for payment by the number installed, complete, functional, tested and accepted. Unless otherwise specified in the Contract, furnish and install the following minimum items as part of a broadband wireless system: a cellular wireless router, antennas, cabling and associated components, and work, equipment, and appurtenances as required, to provide a fully functional broadband cellular wireless communications system. The price bid shall also include system documentation to be turned over to the Department and other material
Section 926—Wireless Communications Equipment

necessary to document the operation of the applicable broadband cellular wireless radio system. This price will be full compensation for labor, tools, materials, equipment, and incidentals necessary to complete the work.

C. Wireless System Survey

Wireless system survey will be measured as a lump sum for wireless measurement tools, supplies, equipment, materials, development of report and recommendations, travel, and subsistence necessary to conduct the wireless system survey.

D. Training

Training will be measured as a lump sum for supplies, equipment, materials, handouts, travel, and subsistence necessary to conduct the wireless training.

926.5 Payment

926.5.01 Wireless System

Wireless systems of the types specified in the Contract documents will be paid for at the Contract unit price. This price will include full compensation for labor, materials, equipment, tools, test equipment, incidentals, installation, testing, and providing warranty necessary to complete the wireless communications system.

Payment Notes:

Submittal

Submittal requirements are included in Section 942.1.04 and will not be paid for separately. It will be considered incidental to the wireless system pay item.

Testing

Testing is defined in Section 942.3.04 and will not be paid for separately. It will be considered incidental to the wireless system pay item.

Wireless Field Cabinets

New wireless field cabinets and enclosures will be paid for separately under Section 939.5 pay items.

GDOT Central Software Integration

GDOT Central Software integration is included in Section 942.3.03 and will be paid for separately under the Section 942.5 pay item.

Payment for the wireless system will be made under:

<table>
<thead>
<tr>
<th>Item No. 926</th>
<th>Wireless System, Type ___</th>
<th>Per each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item No. 926</td>
<td>Wireless System Survey</td>
<td>Lump sum</td>
</tr>
</tbody>
</table>

926.5.02 Training

Payment for training will be made under:

<table>
<thead>
<tr>
<th>Item No. 926</th>
<th>Training</th>
<th>Lump Sum</th>
</tr>
</thead>
</table>
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SUPPLEMENTAL SPECIFICATION

Section 936—Closed-Circuit Television (CCTV) Camera System

Delete Section 936 in its entirety and substitute the following:

936.1 General Description

Furnish, install, test, and provide training for closed circuit television (CCTV) field equipment and materials as shown in the Contract documents.

936.1.1 Definitions, Acronyms, and Abbreviations

A. Definitions

1. CCTV Camera System, Type 1  Internet Protocol (IP) Pan-Tilt-Zoom (PTZ), High Definition (HD), Dome Type Camera, Non-Pressurized
2. CCTV Camera System, Type 1P  Same as Type 1 except Pressurized
3. CCTV Camera System, Type 2  IP PTZ, HD, Turret/Positioning Type Camera, Non-Pressurized
4. CCTV Camera System, Type 2P  Same as Type 2 except Pressurized
5. CCTV Camera System, Type 3  IP Fixed, HD, Barrel or Box Type Camera, Non-Pressurized
6. CCTV Camera System, Type 3P  Same as Type 3 except Pressurized

B. Acronyms and Abbreviations

Refer to Sections 101.01 and 940.1.01 for a list of acronyms, abbreviations, and common terminology used throughout the ITS specifications.

936.1.2 Related References

A. GDOT Standard Specifications

1. Section 150–Traffic Control
2. Section 639–Strain Poles for Overhead Sign and Signal Assemblies
3. Section 647–Traffic Signal Installation
4. Section 682–Electrical Wire, Cable, and Conduit
5. Section 694–Weather Monitoring and Reporting System
6. Section 922–Electrical Wire & Cable
7. Section 923–Electrical Conduit
8. Section 924–Miscellaneous Electrical Materials
9. Section 925—Traffic Signal Equipment
10. Section 926—Wireless Communications Equipment
11. Section 939—Communication and Electronic Equipment
12. Section 940—ITS General Requirements

B. Referenced Industry Standards and Documents

It is the Contractor's responsibility to utilize the standards, codes, manuals, and guidelines that apply to the work required to complete this Project.

All CCTV camera materials are to be consistent and compliant with the latest version or edition of the standards and industry practices as specified.

4. American Society of Civil Engineers (ASCE) 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
12. NTCIP 1205, “National Transportation Communications for ITS Protocol Object Definitions for CCTV Camera Control v01.08,” latest edition.
Section 936—Closed-Circuit Television (CCTV) Camera System

936.1.3 Submittals
Refer to Section 940.2.02 for submittal requirements. Requirements for materials and components are specified herein.

936.2 Materials

936.2.1 CCTV Camera System Requirements
Provide a CCTV camera system for outdoor use with internal video encoder, weather-tight camera casing or enclosure, outdoor-rated cabling, Power-over-Ethernet (PoE) injector for powering the IP camera, surge protection, mounting brackets and hardware, network patch cables, and any other ancillary and incidental materials required or needed to provide a complete CCTV camera system.

A. General Requirements

1. Manufacture in an International Organization for Standardization (ISO)-9001 certified manufacturing facility that is regularly engaged in the production of the materials described in this section.
2. Provide commercial-off-the-shelf only equipment and materials that are of new manufacture and previously unused.
3. Provide all equipment and materials of like kind and function of the exact same manufacturer, model, part number, revision, and firmware.
4. Use the most stringent material requirement for this Contract if a conflict or difference exists between the specified industry standards and practices listed in Section 936.1.02(B) and these minimum standard specifications. Notify and resolve with the Department or authority having jurisdiction (AHJ) of any such conflicts or differences prior to procurement of materials and components.
5. Support an open and published application programming interface or software development kit that provides the necessary information for integration of functionality into third party applications and the users’ central control system environment.

B. CCTV Camera Requirements

1. Image Sensor and Scanning: Provide a progressive scan digital complementary metal-oxide semiconductor (CMOS) or charge-coupled-device (CCD) image sensor.
2. Image Resolution: Support at a minimum the following resolutions.
   a. High Definition Television (HDTV) User-configurable 1080P (1920 x 1080) to 320 x 180 pixel array.
   b. HDTV User-configurable 720P (1280 x 720) to 320 x 180 pixel array.
3. Frame Rate: Allow user-configurable frame rates from 5 up to 30 frames per second (fps) with a default of 30fps.
4. Camera Format: Provide removable Infrared (IR)-cut filter, providing day (color) and night (monochromatic) functionality.
6. Image Processing:
   a. Provide automatic and manual electronic shutter speed setting that is user selectable from 1/2 second to 1/30,000 second at 60 Hz.
   b. Provide automatic and manual user selectable automatic gain control.
   c. Provide automatic and manual user selectable white balance control.
   d. Provide on/off backlight compensation operation with user control.
   e. Provide on/off wide dynamic range operation with user controls and manual override option.
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f. Provide automatic and manual user selectable defog mode.

g. Provide on/off electronic image stabilization (EIS) algorithms integrated within the camera assembly system.
   i. Provide compensation algorithms based on those particular movement wavelengths associated with vibration present at the roadside or pole movement (e.g., 5 Hz and 10 Hz sinusoidal frequencies at a minimum).
   ii. Ensure EIS function automatically pauses while PTZ functions are occurring and restores when no PTZ is occurring.
   iii. Provide stabilization such that standard Department of Transportation placards with a size of 1 ft (0.3 m) by 1 ft (0.3 m) are continuously legible in conjunction with viewing specification and maximum zoom level at a distance of 500 ft (152 m).

7. **Lens:**
   a. For Type 1, 1P, 2, and 2P cameras, provide an integrated zoom lens assembly for each camera with the following features:
      i. An aperture f-stop of f/1.6 (wide) or better zoom lens with variable focal lengths.
      ii. A minimum 30X optical zoom and 2X digital zoom.
      iii. Automatic switching from optical zoom to digital when optical zoom range is exceeded.
      iv. Adjustable zoom speed.
      v. Automatic and manual user selectable focus control.
      vi. Automatic and manual user selectable iris control to compensate for changes in scene illumination to maintain constant video-level output within sensitivity specifications.
   b. For Type 3 and 3P cameras, provide a varifocal lens for each camera with the following features:
      i. An aperture f-stop of f/1.4 (wide) or better.
      ii. A horizontal angular field of view of 46 degrees (wide angle) to 9 degrees (telephoto), typical.
      iii. Adjustable zoom remotely through the camera’s web interface. Final focus to be adjustable through camera’s web interface.

8. **Sensitivity:** Provide a camera that has useable video at the following ambient low light conditions:
   a. Scene Illumination; F-stop set at wide open at 50 percent video (50 Institute of Radio Departments [IRE])
   b. 1.0 Lux (0.1 fc) at 1/30 shutter, color mode
   c. 0.1 Lux (0.01 fc) at 1/30 shutter, monochromatic (black and white) mode

C. **Pan-Tilt (P/T) Positioning Drive Requirements**

1. **P/T Range and Speed:**
   a. Provide Type 1, 1P, 2, and 2P camera system that has an integrated P/T unit meeting the following minimum requirements:
      i. Pan Range: 360 degrees, full endless or continuous rotation movement.
      ii. Pan Manual Speed: variable up to 90 degrees per second (minimum), user adjustable through the full speed range.
      iii. Pan Preset Speed: minimum 180 degrees per second.
      iv. Preset Pan Repeatability: ±0.36 degree, or <0.10 percent or better.
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v. Tilt Range: minimum of 180 degrees total tilt range for Type 1 and 1P cameras and minimum 130 degrees total tilt range for Type 2 and 2P cameras.

vi. Tilt Manual Speed: variable up to 90 degrees per second (minimum), user adjustable through the full speed range.

vii. Tilt Preset Speed: minimum 180 degrees per second.

viii. Preset Tilt Repeatability: ±0.36 degree, or <0.10 percent or better.

b. Provide an automatic electronic image inversion or “auto flip” functionality that shall automatically rotate the image 180 degrees electronically when following a moving object passing under the camera. No mechanical stops are permitted.

c. Provide proportional zoom control allowing variable P/T speeds based on “zoom” position. This is to scale the maximum P/T speed, while maintaining variable speed capability, throughout the zoom range of the camera.

2. P/T Preset Functions: Provide Type 1, 1P, 2, and 2P camera system that has P/T presets meeting the following minimum requirements:

a. A minimum of 64 presets for PTZ and focus settings.

b. A minimum of eight tours (sequences) that allow the camera to automatically move between selected presets using an individual speed and viewing dwell time for each preset.

c. A minimum of eight programmable blackout privacy masks or zones.

D. Video Encoding Requirements

1. Encoding Standards: Comply with the following standards:

a. ISO/IEC 14496-10, Advanced Video Coding (H.264), Baseline, Main and High Profiles

b. Motion JPEG (MJPG)

2. Video Standards: Comply with the following HDTV video standards in regards to resolution, frame rate, aspect ratio, and color fidelity:

a. SMPTE 296M (HDTV 720P)

b. SMPTE 274M (HDTV 1080P)

3. Video Stream Format and Configuration:

a. Provide simultaneous unique video streams that are independently and individually configurable that meet the following minimum requirements:

i. Stream 1: H.264 Baseline, Main or High Profile

ii. Stream 2: H.264 Baseline, Main or High Profile

iii. Snapshot: JPG full-frame capture

b. Provide the following encoding parameters minimum ranges and operation, that can be independently and individually configurable by the user for each stream:

i. Target multicast address, port and time-to-live (TTL) setting

ii. Video compression technology and levels: H.264 Baseline, Main or High Profile for video and JPG/MJPG for snapshot captures or full-frame captures from a video stream

iii. Image resolution of 1080P (1920 x 1080) to 320 x 180 or 720P (1280 x 720) to 320 x 180

iv. Frame rate: adjustable 5 to 30 fps (North American, 60 Hz)
v. Bandwidth and encoding bit rate control: variable bit rate or constant bit rate/maximum bit rate selectable from 192 Kbps to 8 Mbps

vi. Group of Pictures length

c. Provide simultaneous and continuous encoding and streaming for a minimum of three video streams. The activation of one, two, or three simultaneous streams shall not result in a performance degradation of any video stream, video image, control function, or device management interface. The video streams shall be capable of providing the following minimum requirements:

i. Stream 1: 4 Mbps/1920 x 1080/Main Profile/30 fps/RTP

ii. Stream 2: 384 Kbps/720 x 480/Main Profile/15 fps/RTP

iii. Snapshot: 1920 x 1080/120 second capture interval

4. **Video Compatibility**: Ensure encoded streams are fully compatible with the GDOT Central software decoding system and with VLC (Video LAN Client) Ver. 2.1.3.

5. **Video Snapshot**:

a. Provide JPG snapshots from either a dedicated stream or from any of the video streams and image transfer via File Transfer Protocol (FTP) either by push or pull at a user-defined interval between 60 and 300 seconds.

b. Include on-screen display (OSD) capabilities in the snapshot images.

c. Provide target FTP server settings including connection credentials for push function.

d. Provide a minimum space for 32 characters for the snapshot filename for push function.

6. **Management System and User Interface Requirements**:

a. Manage encoder through Hypertext Transfer Protocol (HTTP)/HTTP Secure (HTTPS) and Secure Shell (SSH).

b. Provide a built-in web server user interface making video, status, and configuration available to multiple clients in a standard operating system and browser environment using HTTP, without the need for any additional software of any kind, except video player plugins solely for displaying a live image stream of the video output.

C. Provide web server user interface that supports access to all configurable parameters in the CCTV camera system, without the need for any separate textual or line commands of any kind.

D. Provide user-configurable password-protected accounts with at least one full administrative and one read/view permissions profile.

e. Reset or reboot and upload firmware via the methods listed above.

   i. Update the firmware in the encoder from a network connection.

   ii. Access the firmware number, IP address, and equipment configuration.

7. **On-Screen Display (OSD)**: Provide a camera system that meets the following minimum OSD requirements:

a. Provide static text insertion on streams and insert a minimum of one line of user configurable text messages with support for date and time of at least 40 ASCII characters in length.

b. Provide text insertion that scales appropriately or is independently configurable for different video image size resolutions.

c. Provide JPG, BMP, or PNG image insertion on streams in the upper portion of the image, using image file(s) uploaded by the user and stored in the encoder’s memory and configuration. Text display on the side of the image is prohibited.

d. Provide the capability to insert a different image file for each stream.
8. **Configuration Backup**: Provide automatic recovery from an over or under voltage condition when prime power has returned to the tolerance values specified herein.
   
a. Store configuration parameters in non-volatile memory.

b. Ensure no reprogramming or manual adjustments are required upon power recovery.

E. **Network Requirements**

1. **Network Format**: Comply with Ethernet compliant IEEE 802.3, 802.3u, and 802.3x; 10/100 Mbps or higher, auto sensing full or half-duplex operations.

2. **Network Hardware Interface**: Equip with a minimum of one 10BASE-T/100BASE-TX PoE Ethernet-port using an IP66 rated RJ-45 weathertight connector or other Ethernet-compatible locking weathertight connector.

3. **Video Encapsulation**: Provide encapsulation of each of the video streams in User Datagram Protocol (UDP) packet and transmission control protocol (TCP) packets, depending on stream configuration, for network transmission.


5. **Camera Protocols**: Support NTCIP 1205, Open Network Video Interface Forum (ONVIF) or other as directed by the Department or AHJ.
   
a. Comply with NTCIP objects determined mandatory and optional by the Department. Contact the Department for the current list.

b. Comply with ONVIF Profile S requirements determined mandatory by the Department. Contact the Department for the current list.

6. **Video Network Transmission**:  
a. Support both unicast (one-to-one) and multi-cast (one-to-many) streams simultaneously.

b. Allow for video to be transported over:
   
i. RTP (Unicast and Multicast)

   ii. RTP over RTSP (Unicast)

   iii. RTP over RTSP over HTTP (Unicast)

   iv. HTTP/HTTPS tunneling (Unicast)

7. **IP Addresses**:  
a. Support both fixed IP addresses and dynamically assigned IP addresses provided by a DHCP server.

b. Support static management interface IP addressing (classes A, B, and C).

c. Support static IP addressing of the multi-cast group individually and independently for each stream.

F. **Electrical Requirements**

1. **PoE**: Provide PoE power to the camera system meeting the following minimum requirements:
   
a. Provide a standalone PoE injector. PoE service through the use of a PoE capable Ethernet switch is not permitted.
b. Select PoE injectors that are based on power requirements of the camera system as recommended by the manufacturer conforming to the following PoE standards:
   i. PoE+ in compliance with IEEE 802.3at (latest revision)
   ii. PoE++ in compliance with IEEE 802.3bt (latest revision)

c. Mount PoE injectors to wall or panel or DIN-rail mount within the Intelligent Transportation System (ITS) field cabinet as approved by the Department.

d. Meet the same environmental requirements as the outdoor-rated elements of the CCTV system.

2. **Outdoor-Rated Cat-6 Cable:** Provide outdoor-rated, shielded Cat-6 cabling from the PoE injector to the camera encoder meeting the following minimum requirements:
   b. Comply with ICEA 5-56-434 standard for communications cables for outdoor use.
   c. Provide eight (four STP) insulated 22 to 23 American Wire Gauge (AWG), solid copper conductors with polyolefin insulation, arranged in four color-coded twisted-pairs.
   d. Provide modular IP66-rated RJ-45 male push-pull connectors with eight-position non-keyed and eight gold anodized pins or other Ethernet-compatible locking weathertight connector.

3. **Surge Protection:** Provide single-channel, in-line surge protection for the Cat-6 cabling meeting the following minimum requirements:
   a. Comply with TIA-568-A/B.
   b. Comply with UL 497B requirements.
   c. Provide a fully shielded RJ-45 connector.
   d. Provide PoE+ and PoE++ power, IEEE 802.3at and 802.3bt.
   e. Test according to Telcordia GR-1089-CORE and IEC EN61000-4-5.
   f. Provide a maximum cut-off voltage of 60 VDC and greater.
   g. Provide protection modes of line to line, line to ground, and shield to ground.
   h. Provide a maximum surge current (per pin) line to ground (8/20 μs) of 100 A, typical.
   i. Provide a maximum surge current shield to ground (8/20 μs) of 5 kiloamps, typical.
   j. Provide heavy-duty single point ground.
   k. Ensure it can be wall or panel or DIN-rail mounted.
   l. Provide protection against corrosion and UV degradation.

G. **Mechanical Requirements**

   1. **Camera Casing or Enclosure (Non-Pressurized):**
      a. Provide a casing or enclosure that is manufactured in compliance with IEC 60529 IP66, NEMA 4X, and IK08 ratings or greater.
      b. Provide camera assembly that meets or exceeds the requirements stated above without the need for additional components such as mounting brackets and hardware to achieve the stated ratings.
      c. Provide high-impact, non-metallic UV-stabilized material of a light color or an aluminum material with a heat-cured paint coating or powder coating of an equivalent color.
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d. Provide viewing windows constructed of an optically corrected acrylic material designed to mitigate degradation of materials and yellowing due to prolonged exposure to UV rays or as approved by the Department.

e. Protect interior of casing by providing weatherproof glands or grommets for cabling to maintain IP rating.

f. Provide camera and housing with measures to protect against water, dust, corrosive elements, and insect intrusion into the camera casing or housing.

g. Provide a housing that is secure from unauthorized entries and vandals.

2. Camera Casing or Enclosure (Pressurized):

a. Meet the casing or enclosure requirements specified in Section 936.2.01.G.1.

b. Meet the following minimum pressurization requirements:

i. Provide a Schrader inlet valve for pressurized extra dry nitrogen.

ii. Provide an operating pressure range of 3 to 7 pounds per square inch (psi) (21 to 48 kPa).

iii. Provide a pressure relief for protection against overpressure.

3. Sunshield: Provide a sunshield to reduce the solar heating of the camera casing or enclosure.

4. Heating and Ventilation:

a. Provide a heater and blower function to maintain internal temperatures within the manufacturer’s operating temperatures for temperature ranges internal to the camera unit not conforming to the environmental requirements in Section 936.2.01(H)(1).

b. For Type 1 and 1P cameras, provide a conventional mechanical thermostat-controlled heater and circulating blower fan system that is designed to keep the camera equipment within the required operational temperature range and to maintain a clear viewing window.

c. For Type 2, 2P, 3, and 3P cameras, an alternative method may be provided to prevent dust and humidity build-up and to keep internal camera casing temperatures to within operational tolerances defined by the manufacturer as approved by the Department.

5. Mounting Arm Requirements:

a. Attach the camera system to the camera pole as shown in the Contract documents using stainless steel banding, clamps, brackets, and other incidental hardware in compliance with the manufacturer’s recommendations.

b. Provide mounting solution(s) as listed in the Contract. Mounting options will be paid for under separate pay items to include the following:

i. Type 1: Strap to pole using arm {AECOM to define in the next spec version}

ii. Type 2: Attached to luminaire mounting mechanism {AECOM to define in the next spec version}

iii. Type 3: Small “candy cane” hook {AECOM to define in the next spec version}

iv. Type 4: Large “candy cane” hook {AECOM to define in the next spec version}

c. Allow for cabling to be routed inside the poles and mounting hardware and protected from exposure to the outside environment.

d. Provide stainless steel mounting hardware and straps in accordance with MIL-STD-810F (3) Method 509 Procedure 1 for exterior salt atmospheres.

e. Provide light-colored camera mounts and mounting bracket arm coatings.


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f. Provide opening in mounting bracket arms to fully enclose the cables. Provide non-metallic cable protection grommets for cable entrances.

g. Provide camera casing mounts that shall accommodate a weight load capacity of no less than 40 lb (18 kg).

H. Environmental Requirements

1. Provide equipment that meets the following operating ambient temperature range and humidity levels:

   a. Camera Assembly and PoE Injectors
      i. \(-4^\circ F (-20^\circ C)\) through \(+140^\circ F (+60^\circ C,\ \text{maximum})\).
      ii. Up to 95 percent relative humidity (condensing).

   b. Cat-6 PoE Surge Protector
      i. \(-40^\circ F (-40^\circ C)\) to \(+149^\circ F (+65^\circ C,\ \text{maximum})\)
      ii. Up to 95 percent relative humidity (condensing).

2. Provide a camera assembly that meets the following environmental and emission requirements:

   a. Comply with NEMA TS2 Sections 2.1.9, 2.2.3, and 2.2.8 and meet the specified requirements during and after being subjected to a vibration of 5 to 30 Hz up to 0.5 g applied in each of three mutually perpendicular planes for 30 minutes.

   b. Comply with NEMA TS2 Sections 2.1.10, 2.2.4, and 2.2.9 and do not yield permanent mechanical deformation or any damage that renders the unit inoperable when subjected to a shock of 10 g applied in each of three mutually perpendicular planes for 30 minutes.

   c. Comply with IEC 60529 Section 14.2.6 for IP66 or greater rating.

   d. Comply with NEMA 250, Type 4X corrosion requirements for salt environments (i.e., coastal regions).

   e. Ensure that the CCTV camera system can withstand wind forces of 100 mph (161 kph) with a 20 percent gust factor.

   f. Provide the following Electromagnetic Compatibility (EMC) emission approvals:
      i. FCC Part 15, Subpart B, Class A
      ii. IEC EN 61000-6-4

936.2.2 CCTV Camera Lowering Device (CLD) Requirements

A. General Requirements:

1. Provide a camera lowering device (CLD) for all new CCTV camera poles 60 ft (18.3 m) or greater above ground level unless otherwise shown in the Contract documents.

2. Provide a CLD designed to support and lower a standard CCTV camera system as specified herein and other supporting components without causing damage or degradation of camera operations.

3. Provide the electrical connection between the ITS field cabinet and the camera assembly installed on the lowering device.

4. Ensure that the CLD shall work with and support Cat-6 Ethernet-based PoE camera operations.

5. Provide CLD and external components that are corrosion-resistant powder-coated, galvanized materials, or otherwise protected from the environment by industry-accepted coatings that can withstand exposure to a corrosive environment.
6. Provide a CLD that can withstand wind forces of 100 mph (161 kph) with a 20 percent gust factor using a 1.65 safety factor.

B. Lowering Cable Requirements:

1. Provide a lowering cable that shall support a minimum of 200 lb (90.7 kg) load.
2. Provide a lowering cable that is stainless steel and located inside conduit within the pole to avoid cable twisting and ensure that only the lowering cable is in motion when the lowering device is operated. All other cables are to remain stable and secure during lowering and raising operations.
3. Provide a design so that the lifting cable does not come into contact with the power or video cables.
4. Ensure that lowering cable accessories, such as connecting links, have a minimum workload rating that meets or exceeds that of the lowering cable.
5. Provide weights and/or counterweights to ensure the alignment for the camera connection can be raised into position without binding and that it can be lowered properly.

C. Disconnect Unit and Connection Requirements:

1. Provide a disconnect unit with a minimum load capacity of 200 lb (90.7 kg) with a 4:1 safety factor.
2. Provide a locking mechanism between the fixed and movable components of the disconnect unit.
3. Provide a minimum of two mechanical latches for the movable assembly to remove all weight from the lowering cable when latched.
4. Provide the fixed unit with a heavy-duty cast tracking guide and a means for latching in the same position each time.
5. Provide capability of securely holding the lowering device and the equipment installed on the lowering device.
6. Provide stainless steel or aluminum interface and locking components.
7. Provide a watertight suspension contact unit with a gasket to seal the interior from dust and moisture without the use of pressurization.
8. Provide connectors that are resistant to UV light degradation.
9. Ensure that male and female matched parts mate together to make a weatherproof, non-corrosive electrical connection between the cable and the camera housing when the camera is fully raised and locked.
10. Ensure the wire leads from both the male and female contacts are permanently and securely fastened into a weatherproof, non-corrosive body.
11. Provide a design to keep contacts protected or provide a method to displace surface contaminants.
12. Ensure any grease or lubricant used on moving parts of the CLD components is recommended by the manufacturer.

D. Camera Lowering Tool Requirements:

1. Provide a camera lowering tool consisting of a portable, lightweight, corrosion-resistant metal frame and winch assembly with a cable, a quick release cable connector, and an adjustable safety clutch.
2. Provide a camera lowering tool that is powered by a 0.5 in chuck, variable speed, and reversible, industrial duty drill, ½ horsepower (minimum). Do not exceed the CLD manufacturer’s maximum rotations per minute.
3. Ensure that the lowering cable winds evenly on the winch drum during operation.
4. Provide a camera lowering tool that is manufactured of durable, corrosion-resistant materials that are powder-coated, galvanized, or otherwise protected from the environment by industry accepted coatings that can withstand exposure to a corrosive environment.
5. Provide a camera lowering tool that can support itself and the load equipped with a positive braking mechanism to secure the cable reel during raising and lowering operations and to prevent freewheeling or freefall.

6. Provide a minimum of one camera lowering tool plus any additional tools required to operate the lowering device for each set of five poles or fraction thereof. Upon the Final Project Acceptance, the Contractor shall deliver the camera lowering tool(s) to the Department.

E. CLD Pole Provisions:

1. Provide a 1.25 in (3.2 mm) polyvinyl chloride (PVC) conduit to contain the CLD stainless steel lowering cable for the full length of cable run inside the camera pole.

2. Provide new camera poles with appropriate hand-holes, cable entry points, and weather-heads so that all cabling, grounding conductors, lowering device, etc., for the complete CCTV camera and CLD installation are run inside the pole. Include these details on the shop drawing submittals and submit for review and approval by the Department prior to fabrication.

3. Provide a hand-hole of sufficient size to provide access to the camera pole interior and for temporarily securing and operating the lowering tool.

4. Provide a pole-top tenon that is rotatable.

5. Provide an attachment point inside the camera pole for attaching the lowering device cable that is fully accessible from the hand-hole.

6. Provide the attachment point material and means of attachment to the pole of sufficient strength and durability to hold the lowering device cable in place if the camera lowering device were to release at the top of the pole.

936.3 Construction Requirements

Ensure that construction and installation of the equipment, materials, components, and assemblies of the CCTV system specified comply with the CCTV manufacturer’s requirements and recommendations.

936.3.1 Contractor Experience and Qualifications

1. Provide the following documentation:
   a. Provide three current client references for project that were performed by the Contractor and/or sub-contractor for the installation, integration and testing of CCTV camera systems including IP-based PTZ dome and fixed camera systems.
   b. Evidence that the electronic technicians performing installation, configuration, setup, program, and related works are thoroughly trained by the manufacturer in the installation and service of the equipment provided.

936.3.2 Construction Requirements

A. General Installation Requirements

1. Request that the Department establish the utility service as described in Section 682.

2. Mount the camera system assembly and the mounting bracket arm at the cardinal direction and height as shown in the Contract documents, and so the pole is not obstructing the camera’s view of the roadway or traffic signals.

3. Install cables between the camera system assembly and the CCTV camera field cabinet inside new hollow steel or metal or concrete support poles unless otherwise specified. Where devices are installed on existing wood poles, install cabling on the wood poles in conduit risers of minimum 2 in (51 mm) diameter.

4. Provide wiring and cabling meeting the following minimum requirements:
   a. Comply with local, state, and national electrical codes.
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b. Provide wires that are cut to proper length before assembly. It is not acceptable to “double-back” wires to take up slack inside the cabinet.

c. Neatly arrange and dress wiring, firmly lace or bundle it, and mechanically secure the wiring without the use of adhesive fasteners.

d. Organize cables neatly inside the cabinet and secure cables with clamps to minimize movement in the wind and chafing against the pole, device, or bracket.

e. Provide service loops at connection points when connecting to hardware inside the cabinet.

f. No splicing of cables or exposed wiring is allowed.

g. Ensure that wiring entry to the camera casing or enclosure uses watertight fittings.

h. Ensure that wiring entry and exits are made at the side or underneath components; no exposed top entry or exits are permitted. This requirement extends to enclosures, junction boxes, support arms, or any other externally exposed devices.

i. Route and secure wiring and cabling to avoid sharp edges and to avoid conflicts with other equipment or cabling.

j. Route CCTV cables separate from any 120 VAC power wiring or surge suppressor ground wiring.

k. Clearly label all wiring as approved by the Department.

l. Neatly coil and dress between 3 ft (1 m) and 5 ft (1.5 m) of cables in the bottom of the cabinet.

5. Dress and route grounding wires separately from other field cabinet wiring and with the minimum length possible between the surge protector and the ground buss-bar.

6. Do not splice any cable, shield, or conductor used for CCTV camera operation, communications signaling, power supply, or grounding.

7. Provide mechanical components meeting the following requirements:

a. Provide stainless steel external screws, nuts, and locking washers. Self-tapping screws are not acceptable.

b. Provide parts that are made of corrosion resistant material; examples include plastic, stainless steel, anodized aluminum, or brass.

c. Protect materials used in construction from fungus growth and deterioration due to sustained moisture.

d. Separate dissimilar metals by an inert dielectric material.

B. Camera Lowering Device Requirements

1. Install in accordance with the manufacturer’s installation instructions.

2. Install materials in a neat and professional manner.

3. Coordinate with the Department to determine actual mounting height and azimuth. Typically, the camera lowering system azimuth shall be perpendicular to the mainline lanes.

C. As-Built Documentation

1. Furnish as-built CCTV system wiring diagrams identified by location.

2. Include wiring, cabling, conductor function, connector type, and pinouts in an electronic (PDF) format.

3. Include the height of the camera in feet above the travel lanes.
936.3.3 Equipment Configuration and Integration Requirements

Refer to Section 940.2.03 for CCTV equipment configuration and integration requirements.

936.3.4 Testing Requirements

Refer to Section 940.2.04 for CCTV testing requirements.

936.3.5 Training

Refer to Section 940.2.05 for CCTV training requirements.

936.3.6 Warranty and Maintenance Support Services

A. Warranty Requirements:

1. Ensure that the CCTV camera system, communication cables, and associated components defined herein furnished, assembled, and installed have a manufacturer’s warranty (usual and customary) covering defects in assembly, fabrication, and materials. Include in warranty and support, all contractor or manufacturer activities related to maintenance, removal, and replacement of parts and materials during the period of support.

2. Provide a minimum warranty length as follows:
   a. CCTV camera assembly and associated components: Minimum of three years.
   b. Cat-6 PoE surge protector: Minimum of five years.
   c. Camera lowering system: Minimum of two years.

3. If the manufacturer’s warranties for the components are for a longer period, those longer period warranties shall apply.

4. Ensure warranty periods begin on the date of maintenance acceptance by the Department.

5. Ensure that the manufacturer’s warranties are continuous throughout the period and shall be fully transferable from the Contractor to the Department and any maintenance consultant/contractor.

6. Provide maintenance support services and make any replacements required during the warranty period without additional charge for labor, equipment, parts, shipping, and other materials required. Support all system components notwithstanding any supplier's warranties whether written or implied.

B. Maintenance Support Services:

Refer to Section 940.2.06 for maintenance support services requirements.

936.3.7 Project Close-out Requirements

Refer to Section 940.2.07 for CCTV project close-out requirements.

936.4 Measurement

The CCTV camera system and training complete, in place, accepted, and of the kind, size, and type specified is measured as follows:

A. CCTV Camera System Pay Items

Item No. 936-2000 – CCTV System, Type 1 (EA)
Item No. 936-2050 – CCTV System, Type 1P (EA)
Item No. 936-2100 – CCTV System, Type 2 (EA)
Section 936—Closed-Circuit Television (CCTV) Camera System

Item No. 936-2150 – CCTV System, Type 2P (EA)
Item No. 936-2200 – CCTV System, Type 3 (EA)
Item No. 936-2250 – CCTV System, Type 3P (EA)

The CCTV camera system will be measured for payment by the number installed, complete, functional, and successfully completed final acceptance testing including IP-based camera assembly with internal video encoder, camera lens, P/T positioning drive, camera casing or enclosure and sunshield. CCTV camera system shall also include ITS field cabinet components, including but not limited to, PoE injector, outdoor-rated cabling and associated wiring, network patch cable, connectors, terminal blocks, surge protector, weather heads (as required or needed), grounding to site ground, and video encoder configuration. This price shall be full compensation for labor, tools, materials, equipment, and incidentals necessary to complete the work.

B. Camera Mounting Pay Items

Item No. 936-2901 – CCTV System, Mounting Arm, Type 1 (EA)
Item No. 936-2902 – CCTV System, Mounting Arm, Type 2 (EA)
Item No. 936-2903 – CCTV System, Mounting Arm, Type 3 (EA)
Item No. 936-2904 – CCTV System, Mounting Arm, Type 4 (EA)

C. Camera Lowering Device (CLD) Pay Item

Item No. 936-XXX – Camera Lowering Device (EA)

D. Camera Lowering Tool Pay Item

Item No. 936-XXX – Camera Lowering Tool (EA)

E. Training Pay Item

Item No. 936-8500 – Training (Lump Sum)

Training is measured as a lump sum for supplies, equipment, materials, handouts, travel, and subsistence necessary to conduct the training.

Measurement Notes:

Submittal

Submittal requirements are included in Section 940 and shall not be paid for separately and shall be considered as incidental to the CCTV camera system pay item.

Testing

Testing requirements are included in Section 940 and shall not be paid for separately and shall be considered as incidental to the CCTV camera system pay item.

NaviGAtor Integration

NaviGAtor integration requirements are included in Section 940 and shall be paid for under 940-1000.

936.5 Basis of Payment

936.5.1 CCTV Camera System

CCTV systems of the type specified in the Contract documents are paid for at the Contract Unit Price. Payment is full compensation for furnishing and installing or delivering the CCTV camera system.
Section 936—Closed-Circuit Television (CCTV) Camera System

The Department will pay 25 percent of the total Contract bid amount for properly stored materials. The Department will pay 50 percent of the total Contract bid amount upon installation of the physical elements of the CCTV camera system and completion of the stand-alone / site testing acceptance. The Department will pay 25 percent of the total Contract bid amount upon completion of the Final Project Acceptance. The total sum of all payments cannot exceed the original Contract amount for this item.

Payment for CCTV camera systems is made under:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>936.1</td>
<td>CCTV System, Type 1</td>
<td>Per each</td>
</tr>
<tr>
<td>936.2</td>
<td>CCTV System, Type 1P</td>
<td>Per each</td>
</tr>
<tr>
<td>936.3</td>
<td>CCTV System, Type 2</td>
<td>Per each</td>
</tr>
<tr>
<td>936.4</td>
<td>CCTV System, Type 2P</td>
<td>Per each</td>
</tr>
<tr>
<td>936.5</td>
<td>CCTV System, Type 3</td>
<td>Per each</td>
</tr>
<tr>
<td>936.6</td>
<td>Camera Lowering Device</td>
<td>Per each</td>
</tr>
<tr>
<td>936.7</td>
<td>Camera Lowering Tool</td>
<td>Per each</td>
</tr>
<tr>
<td>936.8</td>
<td>CCTV System, Mounting Arm, Type 1</td>
<td>Per each</td>
</tr>
<tr>
<td>936.9</td>
<td>CCTV System, Mounting Arm, Type 2</td>
<td>Per each</td>
</tr>
<tr>
<td>936.10</td>
<td>CCTV System, Mounting Arm, Type 3</td>
<td>Per each</td>
</tr>
<tr>
<td>936.11</td>
<td>CCTV System, Mounting Arm, Type 4</td>
<td>Per each</td>
</tr>
</tbody>
</table>

936.5.2 Training

The Department will pay 25 percent of the total Contract bid amount for training upon approval of the Training Plan. The Department will pay the remaining 75 percent after completion of training described in Section 940.2.05. The total sum of all payments cannot exceed the original Contract amount for this item.

Payment for training is made under:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>936</td>
<td>Training</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>
Delete Section 939 in its entirety and substitute the following:

939.1 General Description
Furnish, install, test, and provide warranty and training for communications and electronic equipment and materials as shown in the Contract documents.

939.1.1 Definitions, Acronyms, and Abbreviations
A. Definitions
1. Field Switch, Type A: Layer 2, minimum 6 copper ports and 2 Small Form Factor Plug-in (SFP) 1 Gbps fiber ports.
2. Field Switch, Type B: Layer 2, minimum 6 copper ports and 3 SFP 1 Gbps fiber ports.
3. Field Switch, Type C: Layer 2, minimum 1 copper port and 7 SFP 1 Gbps fiber ports.
4. Field Switch, Type D: Layer 2 or 3 upgradeable, minimum 4 copper ports and 4 dual-purpose 1 Gbps ports.
5. Field Switch, Type E: Layer 2 or 3 upgradeable, minimum 8 copper ports and 4 dual-purpose 1 Gbps ports.
6. SFP, Type 1: LX optics for shorter distances.
7. SFP, Type 2: ZX optics for longer distances.
9. Routing Switch, Hub, Type B: Layer 3, minimum 48 ports at 10/100/1 Gbps copper and 4 ports at 1 Gbps SFP.
10. Field Cabinet, Type 1: A modification of the Joint Committee (JC) Standard ITS Cabinet Housing #2.
11. Field Cabinet, Type 2: JC Standard ITS Cabinet Housing #2.
13. Field Cabinet, Type 4: JC Standard ITS Cabinet Housing #3.

B. Acronyms and Abbreviations
Refer to Sections 101.01 and 940.1.01(A) for a list of acronyms, abbreviations, and terminology used in this section and throughout these ITS specifications.

939.1.2 Related References
A. GDOT Standard Specifications
1. Section 150 – Traffic Control
2. Section 639 – Strain Poles for Overhead Sign and Signal Assemblies
Section 939—Communications and Electronic Equipment

3. Section 647 – Traffic Signal Installation
4. Section 682 – Electrical Wire, Cable, and Conduit
5. Section 694 – Weather Monitoring and Reporting System
6. Section 922 – Electrical Wire & Cable
7. Section 923 – Electrical Conduit
8. Section 924 – Miscellaneous Electrical Materials
9. Section 925 – Traffic Signal Equipment
10. Section 926 -- Wireless Communications Equipment
11. Section 939 – Communication and Electronic Equipment
12. Section 940 – ITS General Requirements

B. Referenced Standards and Documents
1. Refer to Section 940.1.01(B) for a list of standards and documents referenced in this section and throughout the ITS specifications.
2. Ensure that all communications and electronic equipment and materials are consistent and compliant with the latest version or edition of the standards and industry practices as specified.

939.1.3 Submittals
Refer to Section 940.2.02 for submittal requirements. Requirements for communications and electronic equipment materials are specified herein.

939.2 Materials
Provide communication and electronic equipment that meet following minimum general requirements:

939.2.1 General Requirements
1. Manufacture in an International Organization for Standardization (ISO) 9001-certified manufacturing facility that is regularly engaged in the production of the materials described in this section.
2. Provide only proven and commercial-off-the-shelf only equipment and materials.
3. Provide equipment and materials that are of new manufacture and previously unused.
4. Provide all equipment and materials that are of like kind and function from the same manufacturer, using the same model, part number, revision, and firmware.
5. Use the most stringent material requirement for this Contract if a conflict or difference exists between the specified industry standards and practices listed in Section 939.1.02(B) and these minimum standard specifications. Notify and resolve with the Department or authority having jurisdiction of any such conflicts or differences prior to procurement of materials and components.

939.2.2 Network Field Switch Requirements
A. General Requirements
1. Provide one or more of the network field switch types listed in Table 1 as specified in the Contract documents:
2. Ensure compatibility and interoperability of network field and routing switches with the existing GDOT network by support of features and implementation of common standards that enable switches to work together and minimize integration effort.

3. Provide the following network field switch interfaces:
   a. Fiber Ports: 1000BaseSFP slot or 100/1000BaseSFP slot.
   b. RJ-45 Ports: 10/100Base-T(X) or 10/100/1000Base-T(TX) auto negotiation speed and capable of being manually set to half-duplex or full-duplex.
   c. Console Port along with any adapter cables as needed and approved by the Department.
   d. LED Indicators: Power on/off and network status per port (transmit, receive, link, and speed).

4. Operate with non-blocking, store and forward, switching at full wire speed.

5. Provide a minimum Mean Time Between Failure (MTBF) of 200,000 hours using Telcordia SR-332, Method 1, Case 3 or MIL-HDBK-217J standards.

6. Comply with IEEE 802.3 for 10Base-T standard specifications.

7. Comply with IEEE 802.3u for 100Base-T(X) standard specifications.

8. Comply with IEEE 802.3ab for 1000Base-T(X) standard specifications.

9. Comply with IEEE 802.3z for 1000Base-X standard specifications.

10. Provide a fan-less (no fan) design.

B. Network Capabilities and Features

1. Provide support for multicast with Internet Group Management Protocol (IGMP) v1/v2/v3 snooping and IGMP filtering.

2. Comply with IEEE 802.3x (Flow Control) standard.

3. Comply with IEEE 802.1p (Class of Service or Priority Queuing) standard.

4. Comply with IEEE 802.1Q (VLAN tagging) standard per port.

5. Comply with IEEE 802.1D (Spanning Tree Protocol) and IEEE 802.1w (Rapid Spanning Tree Protocol) standards.

6. Comply with IEEE 802.3ad (Link Aggregation or Port Trunk) standard for a minimum of two groups of four ports.
C. Security Requirements

1. Provide the capability to configure static Media Access Control (MAC) addresses access.

2. Provide the capability to disable automatic address learning per ports; known hereinafter as Secure Port. Secure Ports only forward statically configured MAC addresses.

3. Provide the capability to trap and alarm upon any unauthorized MAC address and shutdown. Require administrator to manually reset the port before communications are allowed.


5. Provide support for Hyper Text Transfer Protocol (HTTP) and HTTP Secure (HTTPS).

6. Provide support for Secure Sockets Layer (SSL).

D. Network Management Requirements

1. Provide network management capabilities that are compatible with the existing GDOT network management consisting of Cisco Prime centralized enterprise management software supporting remote management.

2. Provide network field switch that is password manageable with a minimum of one read-only profile and one full administration profile.


4. Provide implementation of Link Layer Discovery (LLDP) protocol as defined in IEEE 802.1ab (Station and Media Access Control Connectivity Discovery).

5. Provide full implementation of Remote Network Monitoring (RMON) I statistics, history, alarms, and events objects.

6. Provide network field switch that can mirror any port to any other port within the network field switch.

7. Provide network field switch that can be managed remotely by an enterprise software/program for configuration, reporting, updates, and monitoring of alarms.

8. Provide environment monitoring capabilities.

9. Provide management capabilities via a serial maintenance/console serial port (local) and over the network (remote).

10. Provide support for HTTP (Embedded Web Server) with SSL.

11. Provide full implementation of RFC 783 (TFTP) to allow remote firmware upgrades.

E. Additional Requirements for Network Field Switch Types D and E

1. Provide, in the quantity specified in the Contract documents, Gigabit-Ethernet Combo ports, where each Gigabit-Ethernet Combo port is defined as a single interface that can be used as a 10/100/1000Base-T/TX ports or 100/1000Base SFP GBIC socket.

2. Provide a card slot for a field removable SanDisk (SD) read-write memory card (included) that can store switch operating system modules and switch configuration modules, and is addressable/manageable from the switch’s management interface and built-in memory system.

3. Provide capability for booting from and loading configuration from the removable memory card slot or from the built-in memory, as defined by the user.

4. Provide capability for push/pull of switch operating system modules and switch configuration settings from the GDOT network management system.

5. Provide capability for conversion from Layer 2 to Layer 3 switch and routing protocols, as specified in Section 939.2.03, with only a change in the switch operating system and/or license.
Section 939—Communications and Electronic Equipment

F. Mechanical and Cabling Requirements

1. Unless otherwise specified in the Contract documents, provide network field switches that are DIN rail panel mountable. Rack-mounted DIN rails may be installed if cabinet space is available and approved by the Department. Rack-mountable switches may be used if approved by the Department. Shelf mount is not permitted.

2. Provide corrosion-resistant hardware and materials for mounting within the field cabinet.

3. Provide a quantity of fiber optic patch cords that matches the number of populated optical ports on the network field switch, in accordance with Section 935, with ST connectors on one end (at the FPP/FDU) and an LC connector on the other end (at the network field switch).

4. Provide rubber dust caps or covers with insertion and removal handles that completely seal the port opening for unused copper and optical ports.

G. Electrical Requirements

1. Provide network field switch that is capable of operating over minimum input voltage range of 108 VAC to 132 VAC at 50/60 Hz (±5%, maximum).

2. Provide network field switch with power conversion/supplies (24 VDC or 24 VAC) as specified herein and provide regulation necessary to support electronics operation.

3. Comply with IEC EN 61000-4-5 surge immunity for network equipment.

4. Ensure that power transformers are a “fastening mechanism” type. No plug-in types will be permitted. Corded transformers are to be mountable with neatly secured power cords.

H. Environmental Requirements

1. Provide hardened network field switch including power supply that comply with NEMA TS 2 Sections 2.1.7, 2.1.8, and 2.1.9 temperature, humidity, vibration, and shock testing requirements.


939.2.3 Network Routing Switch Requirements

Provide a network routing switch with the minimum number and types of ports along with functionality according to the Routing Switch Type indicated in the Contract documents.

A. General Requirements

1. Provide one or more of the network routing switch types listed in Table 2 as specified in the Contract documents:

<table>
<thead>
<tr>
<th>Type</th>
<th>Layer Capability</th>
<th>Ethernet Port Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>Layer 3</td>
<td>Providing a minimum 48 1/10/25Gbps SFP+ fiber ports + 6 40/100Gbps QSFP28 fiber uplink ports per switch</td>
</tr>
<tr>
<td>Type B</td>
<td>Layer 3</td>
<td>Providing a minimum 48 10/100/1000 Ethernet copper ports + 4 SFP 1Gbps fiber uplink ports per switch, stackable</td>
</tr>
</tbody>
</table>

2. Provide network routing switches that are compatible with the existing GDOT routing network consisting of Cisco Nexus 93180YC-FX Layer 3 routing switch (Type A) and Cisco Catalyst 2960XR Layer 3 routing switch (Type B) that can be managed by the Department’s existing network management software.

3. Populate network routing switch with optical SFPs meeting the minimum SFP requirements in Section 939.2.05.

4. Provide network routing switch with SFP fiber ports that accept LC fiber optic single-mode connectors.
Section 939—Communications and Electronic Equipment

5. Provide a minimum MTBF of 200,000 hours using Telcordia SR-332, Method 1, Case 3 or MIL-HDBK-217J standards.

6. Provide up to 4,096 VLANs.

7. Provide network routing switch where modules are hot-swappable.

8. Provide network routing switch that can be EIA 19 in (483 mm) rack mounted (one RU per network routing switch, typical).

B. Network Standards and Protocols

1. Provide support for the network standards and Layer 2 and 2+ protocols specified in Section 939.2.02.

2. Provide support for additional network Layer 3 protocols as follows:
   b. Provide full implementation of IGMP v1/v2/v3.
   d. Provide support for Remote Authentication Dial-In User Service (RADIUS) protocol.
   e. Provide full implementation of Routing Information Protocol (RIPv2).
   f. Provide full implementation of Open Shortest Path First (OSPF) protocol.
   g. Provide full implementation of Generic Multicast Registration Protocol (GMRP).
   h. Provide full implementation of Generic VLAN Registration Protocol (GVRP).
   i. Provide full implementation of Protocol Independent Multicast Sparse Mode (PIM-SM).
   j. Provide full implementation of Virtual Router Redundancy Protocol (VRRP).

C. Mechanical and Cabling Requirements

1. Provide network routing switches that are rack mountable.

2. Provide hardware and materials for mounting within the equipment rack that are corrosion resistant.

3. Provide a quantity of fiber optic patch cords that matches the number of populated optical ports on the network routing switch, in accordance with Section 935, with ST connectors on one end (at the FPP/FDU) and an LC connector on the other end (at the network field switch).

4. Provide rubber dust caps or covers with insertion and removal handles that completely seal the port opening for unused copper and optical ports.

D. Electrical Requirements

1. Provide network field switch that is capable of operating over minimum input voltage range of 108 VAC to 132 VAC at 50/60 Hz (±5%, maximum).

2. Comply with IEC 61000-4-5 surge immunity testing requirements.

3. Provide network routing switch with dual redundant power supplies and fans, N+1 configuration, hot swappable, and configured for 120 VAC service.

E. Environmental Requirements

1. Provide network routing switch including power supply that meets following minimum ambient temperature and humidity requirements:
Section 939—Communications and Electronic Equipment

a. Temperature range from +23°F through +113 °F (−5°C to +45°C).
b. Relative humidity from 10% through 95%, noncondensing.
c. Comply with NEMA TS 2 Sections 2.1.8 and 2.1.9 vibration, and shock testing requirements.


939.2.4 Reserved

939.2.5 Small Form Factor Plug-in (SFP) Fiber Module Requirements

1. Provide single-mode, dual-fiber SFPs.

2. Provide one of more the following types of full duplex, SFP fiber optical modules as shown in the Contract documents or as required:
   a. Type 1: LX/LH optics for single-mode >10 km (6.2 miles) in length (under ideal conditions).
   b. Type 2: ZX optics for single-mode fiber of > 70 km (43 miles) in length (under ideal conditions).

3. Comply with IEEE 802.3x, 1000Base-LX/LH and 1000Base-ZX standards.

4. Provide fiber optic patch cables as specified in Section 935.2.01(G) with integral optical attenuators if required for optical power control per the network field switch manufacturer’s recommendations.

5. Provide SFPs that are 100% compatible with the network field switch, including any serial number or other identifying information. Only demonstrated proven SFPs that do not require non-default, switch configuration settings are acceptable.

6. Provide SFPs that are hot-swappable to maximize uptime.

7. Support detecting and shutting down one-way link failures using auto-negotiation.

8. Operate as its’ own switched port.

9. Provide network field switch with SFP fiber ports that accept LC fiber optic single-mode connectors.

10. Provide with LC connectors as approved by the Department.

11. Environmental Requirements: Provide SFPs with extended temperature capabilities meeting the following minimum requirements:
    a. Ambient temperature range from +23°F through +185°F (−5°C through +85°C).
    b. Relative humidity from 10% through 95%, non-condensing.

939.2.6 Network Patch Cord Requirements

A. Network Field Switch Patch Cords:

Verify that network field switch patch cords meet ANSI/TIA requirements for Category 6, 4-pair unshielded twisted pair cabling with stranded conductors and RJ-45 connectors meeting the following minimum requirements:

1. Provide patch cords that are factory assembled, connectorized, and certified by the manufacturer to meet the relevant performance standards specified herein.

2. Comply with ANSI/TIA-568-C.2 and UL 444 standards.

3. Provide eight (four STP) insulated 22 to 24 AWG, solid copper conductors arranged in four color-coded twisted-pairs.

4. Provide modular RJ-45 male connectors with 8-position non-keyed and eight gold anodized pins.
Section 939—Communications and Electronic Equipment

5. Ensure that connectors incorporate mechanical cable strain relief and protective boots.

6. Characterize to 600 MHz and provide design margin (headroom) beyond standard Near-End Crosstalk (NEXT), Power Sum NEXT (PSNEXT), Attenuation-to-Crosswalk Ratio (ACR), and Power Sum ACR (PSACR).

7. Provide with lengths of patching from network field switch to equipment inside the field cabinet or equipment rack without strain. Provide custom or standard lengths as required or needed based on final equipment layout and configuration that permits future movement of equipment within the field cabinet or equipment rack.

8. Provide a riser-rated patch cord.

B. Fiber Optic Patch Cords:

   Provide fiber optic patch cords that meet the requirements of Section 935.

939.2.7 Reserved

939.2.8 Field Cabinet Requirements

A. General Requirements

1. Provide one or more of the field cabinet types listed in Table 3 as specified in the Contract documents:

<table>
<thead>
<tr>
<th>GDOT Type</th>
<th>Joint Committee ITS Cabinet Standard</th>
<th>Minimum Cabinet Dimension Range</th>
<th>Number of Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Height</td>
<td>Width</td>
</tr>
<tr>
<td>Type 1</td>
<td>Modified ITS Cabinet Housing #2</td>
<td>30 in to 36 in</td>
<td>23 in to 26 in</td>
</tr>
<tr>
<td>Type 2</td>
<td>ITS Cabinet Housing #2</td>
<td>44 in to 47 in</td>
<td>23 in to 26 in</td>
</tr>
<tr>
<td>Type 3</td>
<td>ITS Cabinet Housing #1</td>
<td>64 in to 67 in</td>
<td>23 in to 26 in</td>
</tr>
<tr>
<td>Type 4</td>
<td>ITS Cabinet Housing #3</td>
<td>64 in to 67 in</td>
<td>44 in to 46 in</td>
</tr>
</tbody>
</table>

2. Unless otherwise specified in the Contract documents or directed and approved by the Department, construct all ITS cabinet (field cabinet) housing assemblies in conformance with this Subsection 939.2.08 and the Joint Committee (JC) ITS Cabinet Standard Specifications for Roadside Cabinets v01.02.17b or latest version.

   a. Do not include with the ITS field cabinet housing the following:
      i. Police panel and associated wiring.
      ii. Power distribution assembly (PDA) and associated flasher units, and signal power contactor.
      iii. DC power supply unit (24 VDC and 12 VDC).
      iv. Input file and associated sensor units, isolator units, and serial interface unit (SIU).
      v. Output file and associated auxiliary monitor unit, SIU unit, transfer relay unit, and switch pack unit.
      vi. Cabinet monitor unit (CMU) assembly.
      vii. Serial and control bus assemblies and wiring.

   b. Unless otherwise specified, configure all field cabinet housing assemblies for pole mounting.
      i. Properly reinforce the holes for pole mounting with metal plates of adequate size and strength welded longitudinally across the inside depth of the field cabinet.
      ii. Where base-mounting of field cabinets is specified, make the field cabinet bottom open and provide an approved base mounting adapter, in accordance with the Department’s Standard Specification for Traffic Signal Equipment.
B. Field Cabinet Components

1. Rack Cage
   a. Equip all field cabinet housings with the standard EIA 19 in (483 mm) rack cage as described in the JC ITS Cabinet Standard Specifications and as follows:
      i. Do not use unistruts or other rail types.
      ii. Types 1, 2 and 3: Equip field cabinet housings with the standard EIA 19 in (483 mm) rack cage.
      iii. Type 4: Equip field cabinet housings with two standard EIA 19 in (483 mm) rack cages.

2. Cabinet Side Mounting Panels
   a. Fabricate side mounting panels as described in the JC ITS Cabinet Standard Specifications for J Panels and as follows:
      i. Do not provide pre-punched terminal block/bar or component mounting holes, except holes for mounting the panel to the rack cage.
      ii. Do not provide shelf assemblies.
      iii. In all field cabinet types provide side panels that are the full depth of the rack cage and the rack cage height less 2 in (50 mm) at the top and bottom.
   b. In all field cabinet types provide side panels on both sides of each rack cage.

3. Shelf and Drawer
   a. Provide shelf and drawer meeting the following minimum requirements:
      i. Provide drawer that is an aluminum storage compartment mounted in the rack cage that is approximately 1.75 in (44.4 mm) (height) by 16 in (410 mm) (width) by 14 in (360 mm) (depth) and is approximately 40 in above final grade.
      ii. Provide telescoping guides to allow full extension from the rack cage.
      iii. Provide construction that supports a weight of 25 lb (11 kg) when extended.
      iv. Provide a minimum non-slip work area measuring 12 in (304 mm) by 12 in (304 mm).
   b. Types 2 and 3: Equip field cabinet with one cabinet-sliding internal shelf and drawer.
   c. Type 4: Equip field cabinet with two sliding internal shelves and drawers.

4. Document Pouch
   a. Provide a plastic documentation pouch that is side-opening, resealable, opaque, and of a heavy-duty plastic material to store the cabinet and equipment documentation.
   b. Provide a pouch that has metal or hard-plastic reinforced holes for hanging from hooks included on the field cabinet door.
   c. Provide a pouch that is of the size and strength to easily hold wiring diagrams, equipment documentation, and the maintenance logbook.
   d. Provide field cabinets with hooks, welded to the inside of the front cabinet door, for hanging the plastic documentation pouch.

5. Wiring, Conductors and Terminal Blocks
   a. Component Mounting Deutsche Industrie Norm (DIN) Rail
i. Provide 1.38 in (35 mm) wide by 0.3 in (7.5 mm) high by 0.04 in (1 mm) thick standard DIN rails perforated and cut to length for flexible mounting of devices including switches with power supply, PoE injector, terminal blocks, circuit breakers, and surge protection devices.

ii. Provide DIN rail that is burr free with no sharp edges or deformation from the standard profile.

iii. Comply with IEC EN 50022 (NS35), IEC EN 60715, and DIN 46277.

iv. Provide nut, bolt, and start washers to mount to panel for low resistance electrical connection.

v. Provide an anti-corrosion paste to provide a solid and long lasting electrical connection between the DIN rail and the mounting panel.

b. Terminal Blocks

i. Use DIN terminal blocks with voltage and current ratings greater than the voltage and current ratings of the wires that are terminated on the blocks

ii. Terminate conductors on terminal blocks using insulated terminal lugs large enough to accommodate the conductor to be terminated.

iii. Terminate on field wiring terminal block screws using a terminal ring lug for termination when two or more conductors are terminated.

iv. Use metallic terminal block connection hardware and components that are non-ferrous copper or nickel/tin-plated copper alloy or equivalent.

v. Comply with the following colors listed for all supplied terminal blocks and wires.
   a) Black – Line
   b) White – Neutral
   c) Green or Green/Yellow – Ground

vi. Provide a ground terminal that is the same size and pitch as the power terminals and provides positive electrical and mechanical connection to the mounting rail.

vii. Provide the quantity of terminals as shown in the Contract documents.

viii. Service Entrance Terminal Blocks:
   a) Make the terminal block for the 120 VAC field cabinet service entrance (SE) a 10 mm single level screw type device.
   b) Provide a terminal block that accommodates #14 to #2 AWG wiring for terminating electrical inputs and outputs.

ix. Distribution Terminal Blocks:
   a) Make terminal blocks for distribution of 120 VAC (TB2) and ground located on the protected side of the power service panel assembly a 6 mm single level screw type device.
   b) Provide terminal block that accommodates #24-6 AWG wiring and provide in colors as specified herein.

c. Circuit Breakers

i. Provide enclosed, thermal magnetic molded case circuit breakers bolted to the panel of the types, sizes, and quantities listed in the Contract documents.

ii. Provide spare breaker space.
iii. Provide two-pole (2P) breakers for 120/240 VAC and single-pole (1P) for 120 VAC single-phase operating voltages.

iv. Comply with UL 489 and NEMA AB-1 standard for molded-case circuit breakers.

v. Ensure that amperage rating of breakers is shown on the face of the breaker or handle.

vi. Provide circuit breakers that have a quick-make, quick-break over center toggle-type mechanism and a position between “ON” and “OFF” when tripped automatically.

vii. Provide circuit breakers that are 120 VAC rated with a minimum symmetrical interrupting short circuit capacity of 18,000A.

viii. Use only circuit breakers that are DIN rail mounted.

ix. Provide circuit breakers that are UL listed.

d. Fuses:

i. Provide DIN rail-mounted switch or disconnect type fuse holders and fuses for low voltage AC and DC circuits in the proper capacity and configured as required.

ii. Fuse size rating labeled on the holder or one the panel adjacent to the holder.

e. Spacer:

i. Provide spacers or dividers between terminal blocks and other components as shown in the Contract documents for visual separation.

ii. Ensure that spacers snap on to DIN rail be approximately 5 to 18 mm thick and match the size of the terminals they separate.

f. Safety Cover:

i. Provide safety covers on terminal blocks to prevent contact with exposed conductors or any metallic components. This cover will provide electrical and visual separation between terminal blocks and other rail-mounted devices.

ii. Ensure that covers are approximately 2 mm thick and sized to match the terminal blocks they protect or separate.

g. Internal Wiring

i. Provide wiring between terminal blocks and attached devices insulated and the proper size.

ii. Utilize #12 to #14 AWG, THHN-THWN, stranded, copper wiring for internal branch circuits.

iii. Use insulated green wire to connect the ground wire directly to the ground terminals.

iv. Do not “daisy chain” with the grounding wires of other devices including other surge protectors.

h. Ground Fault Interrupter (GFI) Service Outlet

i. Provide one duplex, NEMA 15A, 5-15R, GFI duplex receptacle (convenience service outlet) with ground-fault circuit interrupters, box, and cover plate able to be accessed after equipment is installed within the field cabinet.

ii. Provide a UL-listed receptacle meeting Federal Specification #WC596.

i. Ground Buss Bar: Provide a ground buss bar of copper alloy material compatible with copper wire and provide at least two positions where a No. 2 AWG stranded copper wire can be attached.

j. Grounding and Bonding: Provide grounding and bonding that complies with NEC requirements. Refer to Section 682 for detailed grounding and bonding requirements.
k. End Brackets: Provide screw-clamped end brackets to positively lock all DIN rail-mounted devices to the rail.

6. Surge Protection
   a. Provide a Type 2 Surge Protection Device (SPD) for the cabinet’s main AC power input on the load side of the field cabinet circuit breaker. Other surge protection devices are covered under individual device specifications.
   b. Provide SPD that meets the following minimum performance requirements:
      i. Posted at UL.com under certification with 20KA I-nominal rating.
      ii. Provide a performance that equals or exceeds 100KA per phase, less than 1nSec response time, and with a maximum protection rating of 600V for L-G and L-N and 1,000V for L-L modes of protection.
      iii. Provide a SCCR that equals or exceeds 100KA.
      iv. Provide a UL Voltage Protection Rating (VPR) per L-N mode of 800V or lower.
   c. Provide SPD that has no leakage current to ground.
   d. Include directly connected thermally protected MOVs.
   e. Provide pluggable SPD modules.
   f. Comply with UL 1449 4th edition, Open-Type 1 Listed.
   g. Comply with IEEE C62.45, C62.41.1, and C62.41.2 rated for NEMA TS 2 temperature and humidity requirements.
   h. Provide solid-state bi-directional operation.
   i. Provide SPD that can be DIN rail mounted.
   j. Provide SPDs that are equipped with visual and remote status indication and with an audible alarm.

7. Rack-Mounted Power Strip
   a. Provide a maximum rating of 15A, 120 VAC, 60 Hz.
   b. Provide minimum of eight NEMA 5-15R receptacles or as specified in the Contract documents.
   c. Provide spacing to accommodate a minimum of four plug-in power supplies without covering up remaining outlets.
   d. Mount the power strip on the rear near the top of the standard TIA-310-D rack cage. Mount the power strip facing toward the back of the field cabinet providing a minimum spacing of 3 in (76 mm) between the outlet’s face and the field cabinet door when the door is closed.
   e. Provide power strip that does not hinder accessibility to the back of existing electrical equipment.
   f. Provide power strip with integrated surge protection meeting the following minimum requirements:
      i. Provide power strip that is UL 1449 listed.
      ii. Exceed IEEE 587 Category A and B specifications.
      iii. Provide a minimum UL 1449 let-through voltage rating of less than 330V(RMS).
      iv. Provide a minimum AC suppression joule rating of 600 joules.
      v. Provide an AC suppression surge current rating of 20,000A.
      vi. Provide a minimum UL 1283 EMI/RFI noise filtering protection rating of 40 dB.
      vii. Provide LED status indicators.
8. Interior Lighting
   a. Provide LED lights at the front and back of the field cabinet.
   b. Equip the LED lights with a manual on/off switch that is connected to a door switch that allows the lights to be powered when the field cabinet door is open.

9. Environmental Systems: For vented cabinet types provide the following ventilation system:
   a. Temperature
      i. Provide a thermostatically controlled ventilation blower fan(s) to maintain internal temperatures below the upper operating temperature thresholds for installed equipment and components that are operating continuously at full capacity.
      ii. Provide the capability for the user-set temperature thresholds to automatically active the fan(s) to turn on or off when the internal field cabinet temperature exceeds the threshold.
   b. Ventilation System
      i. Provide a design so that openings prevent the entrance of dust, insects, and other foreign matter.
      ii. Provide a bottom trough to drain any accumulated moisture to the outside of the field cabinet.
      iii. Type 1: Provide one 100 cubic feet per minute (cfm) (minimum) 120 VAC blower exhaust fan mounted near the top of the field cabinet.
      iv. Types 2, 3 and 4: Provide two 100 cfm (minimum) 120 VAC blower exhaust fans mounted near the top of the field cabinet.

10. Cable and Wire Management
   a. Provide vertical and horizontal cable management as shown in the Contract documents or as approved by the Department.
   b. Provide cable and wire management for AC branch, low-voltage power, and communications/data wiring within the field cabinet.
   c. Provide cable and wire management components securely attached to the field cabinet/rack cage with screws; no adhesive or self-stick mounting is acceptable.
   d. Provide separate wire management for power and other field cabinet low-voltage and communications wiring.
   e. Type 4 cabinet only: Provide a minimum of four wiring pass-through holes on the inside side-mounting panels to permit patch cords to pass between the two cabinet sides:
      i. Provide 5 in (127 mm) pass-through holes that are fully grommetted for patch cord protection, with the holes positioned with two in the cabinet front and two in the cabinet rear and aligning horizontally between the two side panels.
      ii. Provide plastic- or rubber-coated J-hooks or D-rings, minimum 1 in (25 mm) depth and height, on the inside rails of the rack cabinet cages, to organize patch cords passing between the two cabinet sides.

939.2.9 Reserved

939.2.10 Field UPS Requirements
1. Provide an industrial-grade UPS that is a double-conversion, on-linetype.
2. Comply with UL 1778 standard.
3. Provide one or more of the field UPS types listed in Table 4:
4. Provide UPS that is capable of operating over minimum input voltage range of 80 VAC to 138 VAC at 50/60 Hz (±5%, maximum).

5. Ensure that the UPS outputs a pure sine wave at 120 VAC ±3% at 50/60 (±0.3% maximum).

6. Provide a Total Harmonic Distortion (THD) of <3% (resistive load).

7. Provide a minimum of four output receptacles type NEMA5-15R.

8. Provide a UPS with a minimum of 85% efficiency (AC-to-AC).

9. Support a minimum transfer time of 0 ms for line fails/recovers, and 5 ms or less for UPS to bypass and reverse.

11. Battery System

   a. Provide maintenance-free sealed batteries that can be serviced and replaced separately from the UPS.
   b. Provide batteries that are rated for extreme temperatures that have been field proven and tested.
   c. Provide UPS batteries that maintain 80% of original capacity for a minimum of five years.
   d. Provide a maximum battery recharge time of 8 hours to 90% of full charge.
   e. Provide battery charger capability that provides a minimum of three-stage, temperature compensated charging and keeps the batteries above a minimum depth of discharge point of 50% or as recommended by the manufacturer.
   f. Provide user-replaceable and hot-swappable battery packs.
   g. Provide batteries with non-conductive terminal covers.

12. Size the battery bank to meet the following minimum runtimes:

   a. Type 1 and 2 field UPS: Provide a minimum runtime of one hour under full load as shown in Table 4.
   b. Hub UPS only: Provide a minimum runtime of four hours under full load as shown in Table 4.
   c. Provide the capability to be expanded for increased runtime using additional expansion battery banks or packs.

13. Provide UPS that supports local and remote monitoring and control via RS232 port and Ethernet SNMP interface:

   a. Provide an addressable SNMP command set including, at a minimum, UPS state, battery condition (capacity, age, internal temperature); current AC input conditions (voltage, phase, frequency, failure condition); current AC output conditions (voltage, frequency, load); and diagnostic/self-test control and status.
   b. Provide remote environmental sensing hardware and software integrated with SNMP minimally capable of temperature and humidity monitoring including generating alarms for Low Battery, Over/Under Voltage, Over/Under Frequency, and High Temperature.
   c. Provide UPS with LCD display for monitoring unit.
   d. Provide four dry contact closures.
   e. Provide support for adjustable high and low voltage buck/boost function.
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f. Provide a UPS with automatic low-battery and high temperature shutdown features.

g. Ensure the UPS will return to normal operations without a manual reset.

14. Provide UPS with a maximum audible noise of <50 dBA at 3 ft (0.9 m).

15. Provide UPS with battery bank(s) that mount on an EIA 19 in (483 mm) rack using a maximum space of five rack units.

16. **Environmental Requirements:** Provide a UPS system including battery bank that meets following minimum requirements:

   a. Types 1 and 2 field UPS: Ambient temperature range from −4°F through +131°F (−20 °C through +55°C).

   b. Hub UPS: Ambient temperature range from +32°F through +104°F (0°C through +40°C).

   c. Relative humidity from 10% through 95%, noncondensing.


939.2.11 Solar Power System Requirements

A. **General Requirements**

1. Provide a solar system that can be mounted in a permanent configuration or in a temporary portable type configuration.

2. Provide one or more of the solar power system types listed in Table 5 as specified in the Contract documents:

<table>
<thead>
<tr>
<th>Type</th>
<th>Location</th>
<th>Site Output Power Capacity (minimum, full load)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Field Cabinet</td>
<td>350 watts</td>
</tr>
<tr>
<td>Type 2</td>
<td>Field Cabinet</td>
<td>800 watts</td>
</tr>
</tbody>
</table>

3. Provide DC-to-DC and DC-to-AC conversion equipment, as specified herein.

B. **Solar Panel Requirements**

1. Provide high-efficiency, photovoltaic solar panel(s) made from tempered glass with an anodized aluminum frame, sized to provide full charging of batteries within a one day full sunlight cycle while under operation in December.

2. Provide solar panels that deliver power for the equipment at the site such that it operates using the lowest average winter insolation values for the area in which the system is installed, accounting for system inefficiencies.

3. Provide IP67-rated junction boxes as required on the backside of the panel.

4. Provide bypass diodes to minimize power drop caused by shade and provide better performance in low-light conditions.

C. **Solar Battery Requirements**

1. Provide batteries that are individually replaceable (hot-swappable), completely sealed, and maintenance free, requiring no watering.

2. Provide battery capacity (amp-hours) and type that will keep field cabinet equipment operating for a minimum of 72 hours without sunlight or charging of the batteries. Include a 20% safety factor to ensure operation in unseasonable weather conditions and battery degradation over time.

3. Provide solar batteries that maintain 80% of original capacity for a minimum of five years.
4. Provide solar batteries with non-conductive terminal covers.

D. Solar Charge Controller Requirements
   1. Provide a minimum 30A rated Pulse Width Modulation (PWM) charge controller that charges 12, 24, and 48V batteries.
   2. Provide a charge controller that supports the selected battery type.
   3. Provide a charge controller with built-in energy LCD monitor to track and indicate the state of charge, voltage level of the solar batteries, and output of the solar panels.
   4. Provide a charge controller that keeps the solar batteries above the minimum depth of discharge point of 50% or as recommended by the battery manufacturer.
   5. Provide a charge controller with data logging capabilities that can be viewed over the network.
   6. Provide a charge controller that disconnects the equipment from the solar batteries at a variable percentage load and allows the batteries to reach a higher state of charge, commonly referred to as a low voltage disconnect feature.

E. Solar Power Inverter Requirements
   1. Provide a power inverter that outputs a true sine wave DC to 120 VAC ±5% rated for off-grid solar application.
   2. Provide power inverter that meets the continuous power wattage (total load capacity) requirements of the ITS field cabinet equipment and components.
   3. Provide a minimum surge rating that is double the continuous power wattage calculation to support equipment start-up power needs (peak power).
   4. Provide a power inverter with a power factor of 0.9 to 1.0.
   5. Provide power inverter with a minimum 3 x NEMA 5-15R, 15A outlet receptacles.

F. Environmental Requirements
   Provide solar panels, charge controller, inverter and battery bank that meets following minimum temperature and humidity requirements:
   1. Ambient temperature range from −4°F through +131°F (−20°C through +55°C).
   2. Relative humidity from 10% through 95%, noncondensing.

939.2.12 Field Power Controller Requirements
   1. Provide a field power controller that is IP-addressable (static) and accessible over a network.
   2. Provide a 10/100 autosensing, port selectable, RJ-45 Ethernet interface.
   3. Provide capability for rebooting and control of outlet receptacles in remote locations from a web browser.
   4. Provide secure control through a user web interface, including SSL and multi-user password secure access.
   5. Provide a minimum of 18 x NEMA 5-15R, 15A outlet receptacles with eight switched pairs and two unswitched receptacles.
   6. Provide an automatic ping feature that monitors and automatically reboots if locked up devices.
   7. Provide a minimum surge protection using dual 3,600J metal oxide varistors (MOV) to clamp power surges and spikes.
   8. Provide configurable event data logging.
9. Provide field power controller that mounts on an EIA 19 in (483 mm) rack (maximum space of two rack units) inside a standard ITS field cabinet or hub building rack.

10. **Environmental Requirements**: Provide a field power controller that meets following minimum requirements:

    a. Provide field power controller including power supply that comply with NEMA TS 2 Sections 2.1.7, 2.1.8, and 2.1.9 temperature, humidity, vibration, and shock testing requirements.

939.3 Construction

Ensure that construction and installation of the equipment, materials, components, and assemblies specified in this section comply with the manufacturer’s requirements and recommendations.

939.3.1 Contractor Experience and Qualifications

Provide a minimum of three current client references for projects that were performed by the Contractor and/or sub-contractor for the installation, integration, and testing of Ethernet network switches (Layer 2 and Layer 3), field cabinets and components, UPS and battery systems, and solar power systems. The systems must have been in continuous service for at least two years.

939.3.2 Construction Requirements

A. General Installation Requirements

1. Install network switches, field cabinets and components, UPS and battery systems, and solar power components as required by the Contract documents and recommended by the manufacturer.

2. Install equipment in new and/or existing rack space in accordance with the equipment manufacturer’s recommendations, including mounting, interconnection wiring, and electrical service.

3. Furnish and install mounting hardware and incidental materials, including fasteners and auxiliary supporting frames/brackets, as recommended by the manufacturer.

4. Furnish and install miscellaneous hardware, materials, wiring/cabling, configuration, and any other incidental items necessary for fully operational components and subsystems shown in the Contract documents and Section 940, except when specifically identified as existing or as work to be performed by the Department.

5. Work on this Project may require access to various Department buildings, hub buildings, and field cabinets requiring coordination of all work activities in these locations with the Department 10 days before access is needed.

6. Work on this Project requires system configuration and integration tasks to be performed by the Department before some Contractor-installed items can be brought online and completely system tested. Coordinate all work activities needing system configuration with the Department a minimum of 14 days prior to any testing.

7. Provide properly sized electrical service, including grounding and current rating, in the equipment racks for all hardware installed under this Project. Furnish and install additional power outlet strips in new and existing equipment racks if needed for the new equipment.

8. For any equipment that is not rack mountable with “rack ears,” provide perforated shelves and secure shelf-mounted equipment with rack mounting hardware.

9. Protect cable ends at all times with acceptable end caps. Never subject any cable to exceed its minimum bend radius as recommended by the manufacturer.

10. Terminate ground wiring between cabinet surge protectors on the DIN rail-mounted ground terminal blocks.

11. Dress and route grounding wires separately from all other field cabinet wiring.

12. Install grounding wires with the absolute minimum length possible between the surge protector and the ground terminals.

13. Provide grommets, guides, and/or strain relief material where necessary to avoid abrasion of or excess tension on wire and cable.

14. Neatly route, dress, and secure patch cords in the equipment racks and at both ends. Use all available cable management devices and/or trays. Route patch cords only vertically on the sides of the equipment racks or horizontally across the bottom or top of the racks; no diagonal routing is permitted. Follow manufacturer’s recommendations including bend radius requirements during patch cord installation.
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15. Store uninstalled cable according to manufacturer recommended bend radius and cable reel requirements.

16. Inspect and test cable for continuity when received, with results compared with factory pre-shipping tests.

17. Inspect the cable nomenclature to make certain that the correct product has been received. Notify the supplier (or manufacturer) of discrepancies for immediate correction.

B. Communications Subsystem

1. Install communications network equipment and materials necessary for a complete communications path from the field site to the TMC or communications hub as shown in the Contract documents.

2. Furnish and install mounting and interconnection materials, including but not limited to mounting panels and rack hardware, fiber and Cat-6 patch/jumper cables, surge protection, and power supply cables.

3. Mount field equipment in a manner as to not restrict the replacement of other components in the field cabinet housing or hub building.

C. Uninterruptible Power Supply

1. Install UPS and battery bank or pack in the field cabinet rack and hub equipment rack.

2. Furnish and install a dedicated electrical service branch circuit from the hub main service panel for the UPS system.

3. Ensure that the UPS system branch circuit is in accordance with all recommendation of the UPS manufacturer, including the provision of a locking plug/receptacle connection.

4. Locate the branch circuit receptacle as close as possible to the UPS mounting position to minimize the UPS input line cord and to minimize tripping hazards.

5. Configure the electrical service inputs for network switches and other equipment to be supplied by the UPS.

6. Furnish and install line cords, power strips, and incidental materials to configure the UPS service to the above equipment.

D. Solar Power System

1. Install and mount the solar panel(s) with mounting bracket and the field cabinet on the ITS pole or structure at heights specified in the Contract documents or as directed by the Department.

2. The installation locations of poles and structures may require slight adjustments to maximize sun exposure for the solar panel assembly. Obtain approval of final site location and orientation from the Department prior to installation.

3. Install in accordance with the manufacturer’s recommended installation procedures and the Contract documents.

4. Mount and orient the solar panel(s) to maximize sun exposure in accordance with the manufacturer’s recommendations.

5. Mount panels at an angle to enable runoff of rain and snow.

6. Provide power from the solar power assembly to the controller cabinet by connecting to the UPS in the cabinet.

7. Ensure no wires from the solar panel(s) to the battery and from the battery to the charge controller are exposed.

8. Install wires in liquid tight flexible conduit, run inside a pole, or other method approved by the Department. The cost to furnish and install any conduit for the solar power assembly installation shall be included in the cost of the solar power assembly.

9. Electrically ground the solar power assembly in accordance with manufacturer recommendations.
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E. Patch Cables and Labeling

1. Label wiring and cabling, including entrance cables, jumper and patch cords, and power supply cables. Cable labels shall consist of UV-protected, waterproof permanent ink printed or legibly written on self-laminating and over-wrapping label material.

2. Apply cable labels at each end and in the center of the cable. Cable labels shall consist of permanent ink printed or legibly written on self-laminating and over-wrapping label material.

3. Label patch cords using cable identification numbers shown in the Contract documents or provided by the Department.

4. Apply cable labels at each end and in the center of the cable.

5. Use printer-generated adhesive overlapping cable labels.

939.3.3 Equipment Configuration and Integration Requirements
Refer to Section 940.2.03 for network equipment configuration and integration requirements.

939.3.4 Testing Requirements
Refer to Section 940.2.04 for testing requirements.

939.3.5 Training Requirements
Refer to Section 940.2.05 for training requirements.

939.3.6 Warranty and Maintenance Support Services

A. Warranty Requirements

1. Ensure that the network equipment, field cabinets and components, UPS battery back-up systems, solar equipment, surge protection, communication cables, and associated components defined herein furnished, assembled, and installed have a manufacturer’s warranty (usual and customary) covering defects in assembly, fabrication, and materials. Include in warranty and support, all contractor or manufacturer activities related to maintenance, removal, and replacement of parts and materials during the period of support.

2. Provide a minimum warranty length as follows:
   a. Network Field Switch: minimum of five years.
   b. Network Routing Switch: minimum of five years.
   c. Surge Protectors: minimum of five years.
   d. UPS and Battery System: minimum of three years.
   e. All other equipment and materials furnished and installed as part of this section: minimum of two years.

3. If the manufacturer’s warranties for the components are for a longer period, those longer period warranties shall apply.

4. Ensure warranty periods begin on the date of maintenance acceptance by the Department.

5. Ensure that the manufacturer’s warranties are continuous throughout the period and shall be fully transferable from the Contractor to the Department and any maintenance consultant/contractor.

6. Provide maintenance support services and make any replacements required during the warranty period without additional charge for labor, equipment, parts, shipping, and other materials required. Support all system components notwithstanding any supplier’s warranties whether written or implied.
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B. Maintenance Support Services:
   Refer to Section 940.2.06 for maintenance support services requirements.

939.3.7 Project Close-Out Requirements
Refer to Section 940.2.07 for project close-out requirements.

939.4 Measurement
The network equipment, field cabinets and components, UPS battery back-up systems, solar equipment, surge protection, and communication cables defined herein and training complete, in place, accepted, and of the kind, size, and type specified is measured as follows:

A. Network Field Switch
   Item 939-2300 -- FIELD SWITCH, TYPE A (EA)
   Item 939-2301 -- FIELD SWITCH, TYPE B (EA)
   Item 939-2305 -- FIELD SWITCH, TYPE C (EA)
   Item 939-2310 -- FIELD SWITCH, TYPE D (EA)
   Item 939-2315 -- FIELD SWITCH, TYPE E (EA)

   Network field switches (all types) with mounting hardware will be measured for payment by the number installed, complete, functional, and accepted. This price will be full compensation for labor, tools, materials, equipment, and incidentals necessary to complete the work.

B. SFP Fiber Module
   Item 939-2390 – SFP FIBER MODULE, TYPE 1 (EA)
   Item 939-2391 – SFP FIBER MODULE, TYPE 2 (EA)

   SFPs (all types) are measured for payment by the number installed, complete, functional, and accepted.

C. Network Routing Switch
   Item 939-2401 -- ROUTING SWITCH, Hub, TYPE A (EA)
   Item 939-2402 -- ROUTING SWITCH, Hub, TYPE B (EA)

   Network routing switches (all types) with mounting hardware will be measured for payment by the number installed, complete, functional, and accepted. This price will be full compensation for labor, tools, materials, equipment, and incidentals necessary to complete the work.

D. Field Cabinet
   Item 939-4101 -- FIELD CABINET, TYPE 1 (EA)
   Item 939-4110 -- FIELD CABINET, TYPE 2 (EA)
   Item 939-4120 -- FIELD CABINET, TYPE 3 (EA)
   Item 939-4130 -- FIELD CABINET, TYPE 4 (EA)

E. Solar Power System
   Item No. 939-4201 – SOLAR POWER SYSTEM, TYPE 1 (EA)
   Item No. 939-4202 – SOLAR POWER SYSTEM, TYPE 2 (EA)
F. Field UPS
   Item 939-6000 – HUB UPS (EA)
   Item 939-6050 – FIELD UPS, TYPE 1 (EA)
   Item 939-6060 – FIELD UPS, TYPE 2 (EA)

G. Field Power Controller
   Item 939-6100 – FIELD POWER CONTROLLER (EA)

H. Training
   Item 939-8500 – TRAINING (LS)
   Training is measured as a lump sum for supplies, equipment, materials, handouts, travel, and subsistence necessary to conduct the training.

Measurement Notes:

Submittal
   Submittal requirements are included in Section 940 and shall not be paid for separately and shall be considered incidental to the different communications and electronic equipment specified in this section.

Testing
   Testing requirements are included in Section 940 and shall not be paid for separately and shall be considered incidental to the communications and electronic equipment specified in this section.

NaviGAtor Integration
   NaviGAtor integration requirements are included in Section 940 and shall be paid for under 940-1000.

939.5 Payment

Communications and electronic equipment of the type specified in the Contract documents are paid for at the Contract Unit Price. Payment is full compensation for furnishing and installing or delivering the communications and electronic equipment.

The Department will pay 25% of the total Contract bid amount for properly stored materials. The Department will pay 50% of the total Contract bid amount upon installation of the communications and electronic equipment and completion of the stand-alone/site testing acceptance. The Department will pay 25% of the total Contract bid amount upon completion of the Final Project Acceptance. The total sum of all payments cannot exceed the original Contract amount for this item.

Payment for communications and electronic equipment is made under:

<table>
<thead>
<tr>
<th>Item No. 939</th>
<th>Field Switch, Type A</th>
<th>Per each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item No. 939</td>
<td>Field Switch, Type B</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 939</td>
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<td>Field Switch, Type D</td>
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<td>SFP Fiber Module, Type 1</td>
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<td>SFP Fiber Module, Type 2</td>
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<td>Routing Switch, Hub, Type A</td>
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<td>Routing Switch, Hub, Type B</td>
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<td>Item No. 939</td>
<td>Field Cabinet, Type 1</td>
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<td>Item No. 939</td>
<td>Field Cabinet, Type 4</td>
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### Section 939—Communications and Electronic Equipment

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<td>Item No. 939</td>
<td>Hub UPS</td>
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<tr>
<td>Item No. 939</td>
<td>Field UPS, Type 1</td>
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<tr>
<td>Item No. 939</td>
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<tr>
<td>Item No. 939</td>
<td>Field Power Controller</td>
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</tbody>
</table>

### 694.5.02 Training

The Department will pay 25% of the total Contract bid amount for training upon approval of the Training Plan. The Department will pay the remaining 75% after completion of training described in Section 940.2.05. The total sum of all payments cannot exceed the original Contract amount for this item.

Payment for training is made under:

<table>
<thead>
<tr>
<th>Item No. 939</th>
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<td>Item No. 939</td>
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Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 17-3

SURGE PROTECTION SYSTEMS AND DEVICES
Attachment 17-3

Surge Protection Systems and Devices

Section 17-1  Surge Protection Systems and Devices

17-1.1 General Description

This work consists of furnishing materials and installation of Surge Protection Devices for traffic signal and intelligent transportation system implementation.

It also includes all test periods, warranties and guarantees as designated in subsequent sections, and response to maintenance and operational issues as described in subsequent sections.

17-1.1.01 Definitions

General Provisions 101 through 150.

17-1.1.02 Related References

A. Standard Specifications

Section 106—Control of Materials
Section 500—Concrete Structures
Section 501—Steel Structures
Section 631—Changeable Message Signs
Section 636—Highway Signs
Section 639—Strain Poles for Overhead Sign and Signal Assemblies
Section 680—Highway Lighting
Section 681—Lighting Standards and Luminaires
Section 682—Electrical Wire, Cable, and Conduit
Section 915—Mast Arm Assemblies
Section 923—Electrical Conduit
Section 925—Traffic Signal Equipment
Section 935—Fiber Optic System
Section 936—CCTV System
Section 937—Video Detection System
Section 938—Radar Detection System
Section 939—Communications & Electronic Equipment
Section 940—Navigator Integration

B. Referenced Documents

National Electrical Manufacturers Association (NEMA) Traffic Control Systems Standards No. TS 1
NEMA Traffic Control Systems Standards No. TS 2
AASHTO Roadside Design Guide
The Manual on Uniform Traffic Control Devices (MUTCD), current edition
National Electrical Code (NEC)
UL 467, Grounding and Bonding Equipment;
UL 497A, Standard for Secondary Protectors for Communications Circuits;
UL 497B, Standard for Protectors for Data Communications and Fire-Alarm Circuits;
UL 497C, Standard for Protectors for Coaxial Communications Circuits;
UL 752, Standard for Bullet-Resisting Equipment;
UL1008, Standard for Transfer Switch Equipment;
UL 1449, Standard for Surge Protective Devices; and the NEC.

Ensure that lightning protection systems conform to the requirements of NFPA 780, Standard for the Installation of Lightning Protection Systems.

GDT 7
GDT 24a
GDT 24b
GDT 67

**17-1.1.03 Submittals**

Submit to the Engineer, SPD material specifications information on all materials proposed for use on the project. The Engineer will forward the materials submissions to the District Traffic Operations offices, which will forward the information onto the Traffic Operations offices at the TMC building.

**A. Review**

For all submittals, the State Traffic Signal Design Engineer’s review of the material should be completed within thirty (30) days from the date of receipt of the submission unless otherwise specified. The State traffic Signal Design Engineer will advise in writing as to the acceptability of the material submitted.

All material submittals for equipment and materials used on the project will be reviewed by the Department’s Traffic Signal Electrical Facility (TSEF). The material review should be completed within thirty (30) days from the date of receipt of the material submission unless otherwise specified. The State Traffic Signal Engineer will advise in writing as to acceptability of materials to be used on the project.

The State Traffic Signal Design Engineer may determine that the items are approved, in which case no further action is required; or the item may be partially or totally rejected in which case, modify the submittal as required and resubmit within fifteen (15) days. At this time, the review and approval cycle described above begins again.

**B. Submittal Costs**

Include the costs of submittals within the price paid for individual bid items. No additional compensation will be made.

**17-1.2 Materials**

**17-1.2.01 General**

Furnish and install grounding and Surge Protective Devices (SPDs) for all ITS devices to protect the devices from lightning, transient voltage surges, and induced current. Use only new materials meeting the requirements of this section. Use equipment or materials that have been tested and approved for the specific use intended by a NRTL, recognized by the Occupational Safety and Health Administration, in accordance with 29 CFR 1910.7 and that also meet the following requirements.

Install SPDs on all power, data, video and any other conductive circuit. Use only equipment and components that meet the minimum requirements of this specification. All SPD shall operate as specified during and after being subjected to the transients, temperature, voltage, humidity, vibration, and shock tests described in National Electrical Manufacturers Association (NEMA) TS2, 2.2.7, 2.2.8, and 2.2.9.
A. **Temperature and Humidity:**

Equipment shall operate as specified when the ambient temperature and humidity are within the following specified limits:

- The operating ambient temperature range shall be from -30° to 165°F (-34.4° to 73.8°C).
- The storage temperature range shall be from -50° to 185°F (-45.5° to 85°C).
- The relative humidity shall not exceed 95 percent, non-condensing

B. **Vibration:**

The equipment shall operate as specified and maintain its physical integrity when subjected to a vibration of 5 to 30 Hz up to 0.5 gravity applied in each of three mutually perpendicular planes.

C. **Shock:**

The equipment shall suffer neither permanent mechanical deformation nor any change that renders the unit inoperable when subjected to a shock of 10 gravities applied in each of three mutually perpendicular planes.

**17-1.2.01 Installation:**

Provide all ITS field installation sites with both primary and secondary surge protection on the AC power. Connect the primary surge protection at the service entrance or main disconnect. Connect the secondary surge protection on the power distribution to the equipment.

A. **SPD at Power Entry Point:**

Install a SPD at the closest termination/disconnection point where the supply circuit enters the ITS device cabinet. Locate the SPD on the load side of the main disconnect and ahead of any and all ITS electronic devices. Configure the SPD to operate at 120 volt single phase (i.e., line, neutral and ground) or 120/240 volt single phase (line 1, line 2, neutral and ground) as required to match the supply circuit configuration. Ensure that the SPD maximum surge current rating is 80kA per phase or greater. Verify that the SPD has been labeled to indicate that the unit is UL listed and meets the requirements of UL 1449, Third Edition.

Ensure that the SPD has a visual indication system that monitors the weakest link in each mode and shows normal operation or failure status and also provides one set of normally open (NO)/normally closed (NC) Form C contacts for remote alarm monitoring. The enclosure for a SPD shall have a NEMA 4 rating.

B. **SPD at Point of Use:**

Install a SPD at the point the ITS devices receive 120 volt power. Ensure that the units are rated at 15 or 20 amps load and a minimum of 20kA of surge current capacity and configured with receptacles.

Ensure that these units have internal fuse protection and provide common mode (L+N-G) protection.

C. **SPD for Low-Voltage Power, Control, Data and Signal Systems:**

Install a specialized SPD on all conductive circuits including, but not limited to, data communication cables, coaxial video cables, and low-voltage power cables. Ensure that these devices comply with the functional requirements shown in Table 785-1 for all available modes (i.e. power L-N, N-G; L-G; data and signal center pin-to-shield, L-L, L-G, and shield-G where appropriate).

<table>
<thead>
<tr>
<th>Circuit Description</th>
<th>Clamping Voltage</th>
<th>Data Rate</th>
<th>Surge Capacity</th>
<th>Maximum Let-Through Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 VDC</td>
<td>15-20 V</td>
<td>N/A</td>
<td>5kA per mode (8x20 μs)</td>
<td>&lt;150 Vpk</td>
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<tr>
<td>24 VAC</td>
<td>30-55 V</td>
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<td>5kA per mode (8x20 μs)</td>
<td>&lt;175 Vpk</td>
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<td>48 VDC</td>
<td>60-85 V</td>
<td>N/A</td>
<td>5kA per mode (8x20 μs)</td>
<td>&lt;200 Vpk</td>
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</tbody>
</table>
### SPD Minimum Requirements

<table>
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<tr>
<th>Circuit Description</th>
<th>Clamping Voltage</th>
<th>Data Rate</th>
<th>Surge Capacity</th>
<th>Maximum Let-Through Voltage</th>
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</thead>
<tbody>
<tr>
<td>120 VAC at POU</td>
<td>150-200 V</td>
<td>N/A</td>
<td>20kA per mode (8×20 μs)</td>
<td>&lt;550 Vpk</td>
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<tr>
<td>Coaxial Composite Video</td>
<td>4-8 V</td>
<td>N/A</td>
<td>10kA per mode (8×20 μs)</td>
<td>&lt;30 Vpk</td>
</tr>
<tr>
<td>RS422/RS485</td>
<td>8-15 V</td>
<td>Up to 10 Mbps</td>
<td>10kA per mode (8×20 μs)</td>
<td>&lt;30 Vpk</td>
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<tr>
<td>T1</td>
<td>13-30 V</td>
<td>Up to 10 Mbps</td>
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<tr>
<td>Ethernet Data</td>
<td>7-12 V</td>
<td>Up to 1 Gbps</td>
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#### 17-1.2.01 Warranty for Surge Protective Devices:

Provide a SPD that is warranted by its manufacturer against any failures caused by electrical events, including direct lightning strikes, for a period of not less than 10 years or the SPD device manufacturer’s standard warranty period, whichever is greater.

The term “failure” for warranty replacement is defined as follows:

- Parallel-connected, power-rated SPD units are considered in failure mode when any of the visual indicators shows failure mode when power is applied to the terminals at the unit’s rated voltage, or the properly functioning over-current protective device will not reset after tripping.

- Series-connected, low-voltage power, data, or signal units are considered in the failure mode when an open circuit condition is created and no data/signal will pass through the SPD device or a signal lead is permanently connected to ground.

In the event that the SPD, including any component of the unit, should fail during the warranty period, the entire SPD shall be replaced by the manufacturer at no cost to the Department. Costs relating to the removal of the SPD, shipping and handling, and the reinstallation of the SPD shall be paid by the Department.
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 17-4

SPECIAL PROVISION 797 – HUB BUILDINGS
<table>
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<td>7/23/99</td>
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<td></td>
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<tr>
<td>12/29/99</td>
<td>Add Contractor responsibility for electrical service until Contract Final Acceptance.</td>
<td>797.5</td>
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<td>Inclusion of metric equivalent units. SCR # 331</td>
<td>797.2.B.1; 797.2.B.2; 797.3.04; 797.3.05.A.2; 797.3.05.B.1; 797.3.05.B.2; 797.3.05.C; 797.3.05.D; 797.3.05.G.2; 797.3.05.H.1; 797.3.05.H.2a; 797.3.05.H.3; 797.3.05.H.5b; 797.3.05.J; 797.3.05.K; 797.3.06.A; 797.3.06.B</td>
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</table>
Add the following:

797.1 General Description

This work includes site preparation, procurement, transportation, and installation of a Hub Building with conduit connections to the size and number of conduits specified in the Plans. Major elements of the hub building include the building components, HVAC, interior electrical distribution system, lighting, fire extinguisher, hub camera, lightning protection system, interior and exterior grounding, and paving and fencing around the hub building. Provide electrical utility connections as needed to provide service to the building. Provide a hub building that meets all local building codes, with electrical installation and wiring conforming to the latest edition of the National Electric Code.

Design the building for the explicit use of housing electronic equipment, fiber optics equipment, measuring devices and other related system components.

797.1.01 Definitions

Not applicable

797.1.02 Related References

A. Georgia Standard Specifications

Section 310 – Graded Aggregate Construction
Section 402 – Hot Mix Recycled Asphalitic Concrete
Section 500 – Concrete Structures (with exceptions as noted in Subsection 737.3.05.A)
Section 643 – Fence
Section 833 – Joint Fillers and Sealers
B. Referenced Documents

National Electric Code, (current edition)
National Fire Protection Association, NFPA 780 – Standard for the Installation of Lightning Protection Systems
Underwriter’s Laboratory, UL 96 – Standard for Lightning Protection Components
Underwriter’s Laboratory, UL 96A – Standard for Installation Requirements for Lightning Protection Systems
Underwriter’s Laboratory, UL 752 – Standard for Bullet Resisting Equipment
ASTM, Designation C33, C330
ACI 318/318R, latest version/addendum
ASCE 7-98, latest version/addendum
ASCE 7-88, latest version/addendum

797.1.03 Submittals

Provide six copies of complete and thorough submittal data to the Engineer for all components of the hub building within 30 calendar days of the Contract Notice-to-Proceed. Include in the submittal data complete technical and performance specifications for all components, materials, wiring, fabrication methods, footing and foundation, and construction methods. Neatly organize each package of submittal data and separate by hardware item. Include an index of all submittal data documents included in the package. In the index, name each submittal data document, the applicable component (including the associated 797.X subsection), and the specific manufacturer model and part number of the item exactly as that item is proposed to be provided. Any submittal data document or documentary item that is not listed in the index will not be accepted for review.

797.2 Materials

A. Type

Install a building that is precast, pre-assembled concrete. Manufacture the precast concrete building inside an enclosed plant building in a controlled environment.

B. Concrete

Use only concrete that is in accordance with Section 500 of the Georgia Standard Specifications with the following exceptions:

- Compressive strength shall be 4000 psi (30 MPa) at 28 days.
- Mix design shall be 114-118 lb./ft³ (1830 – 1890 kg/m³) structural light weight concrete using expanded shale or expanded clay aggregation in accordance with ASTM Designation: C33 or C330. Use a homogeneous mix.

797.2.01 Delivery, Storage and Handling

Contractor shall be responsible for secured handling, storage, and delivery of the hub building. Prior to Contractor’s procurement of the hub building, submit the hub building manufacturer guidelines for handling and storage of the hub building. Do not deliver the hub building to the building site until the site has been made ready to install the hub building.

797.3 Construction Requirements

797.3.01 Personnel

Not applicable

797.3.02 Equipment

Not applicable
797.3.03 Preparation
Survey the building site and perform any necessary grading to facilitate installation. Per Section 797.1.03, submit for review and approval foundation design as per Section 797.3.05.K that have been signed and sealed by a Georgia Professional Engineer. Place the building in a level position on the approved foundation. Ensure positive drainage away from the building.

797.3.04 Fabrication
Install a building with dimensions as specified in the Plans. The width and length of the building is specified to the outside of the finished walls. Measurements are either 12’ x 16’ (3.7 m x 4.9 m), 16’ x 24’ (4.9 m x 7.3 m) or 32’ x 24’ (9.8 m x 7.3 m). Maintain an interior building height of 9'-6" (2.9 m) minimum from finished floor to finished ceiling.

797.3.05 Construction
A. Structural
Ensure that structural design and manufacturing conform to the requirements of ACI 318/318R, latest version/addendum.

Design the shelter for the following loading:
- Floor - uniform distributed load of 140 psf (680 kg/m²) per ASCE 7-98, latest version/addendum
- Roof - roof snow specifications of 50 psf (240 kg/m²) per ASCE 7-98, latest version/addendum
- Roof - dual roof air conditioning units live load specifications to meet manufacturer’s recommendations, including safety factor per ASCE 7-98, latest version/addendum.
- Wind - basic wind speed specifications of 115 mph (185 km/h) per ASCE 7-98, latest version/addendum
- Earthquake - Seismic Zone 2A, per ASCE 7-88, latest version/addendum

B. Floor Section
Include an 8" (200 mm) waffled structural precast concrete floor section. Use ribs that are 2'-0" (0.61 m) O.C. longitudinal and make all surfaces smooth.

Cover the interior surface with 1/8" (3.175 mm) vinyl floor covering (sheet or squares), bonded with a waterproof contact adhesive.

C. Roof Section
Use a concrete roof section with 96:1 drainage slope that slopes in two directions. Install a layer of impervious, UV resistant, non-corrosive, non-degradable material on top of the roof deck.

Install ceiling insulation and interior finish of R-9 foam insulation covered with minimum 0.7" (18 mm) thick plywood laminated with white vinyl or fiberglass reinforced plastic. Install plastic joint or corner trim at all panel joints.

Provide a 1.5 in. to 3 in. (40 mm to 80 mm) overhang on all sides of the roof section. Cap the roof over the walls, leaving no exposed roof to wall joint.

D. Wall Sections
Use solid concrete wall sections that are cast in one piece to minimize joints, with an exterior wood float finish followed by steel troweling leaving a uniform surface free of depressions or ridges. Install on the exterior wall an aggregate tan pebble rock finish in accordance with the building manufacturer’s specifications.

Install wall insulation and interior finish of R-9 foam insulation covered with minimum 0.7" (18 mm) thick plywood laminated with white fiberglass reinforced plastic. Install plastic joints or corner trim at all panel joints.

Finish the floor/wall intersection with 4" (100 mm) vinyl baseboard.

Extend the walls a minimum of 7" (200 mm) below the top of floor surface. Ensure that there is no exposed wall to floor joint.

E. Joints
Seal all joints with a sealant in accordance with Section 833 of the Standard Specifications.
Do not expose roof to wall or wall to floor joints.

F. Exterior Walls and Roof

Seal exterior surfaces of walls and roof with two coats of thoroglazed H Sealer, or acceptable equal in strict conformance with manufacturer’s instructions, unless otherwise noted.

Seal all penetrations of the wall or roof for conduits, cabling, or HVAC vents with sealant in accordance with Section 833 of the Standard Specifications.

G. Door

Install a door frame(s) that is (are) 18 gauge galvanized steel, primed, painted brown and cast into the wall panel.

Install a door(s) that is (are) 3’x 7’x 1-3/4” (900 mm x 2100 mm x 45 mm) 18 gauge galvanized steel, insulated, primed, painted brown, and installed flush with door check. Include door stop, weather-stripping, hydraulic door closer, mortise lockset with deadbolt and stainless steel ball bearing hinges.

Provide three (3) sets of hub building keys to the Engineer no more than 18 hours after hub building installation.

H. Electrical System

1. Distribution

From the hub electrical power service assembly install 200 A 120/240 V main service entrance with exterior auxiliary disconnect and 42 position load center. From the Type 2 pull box outside the hub to the auxiliary disconnect, install 2 in. (50 mm) galvanized rigid steel conduit for the electrical service cable. Install an auxiliary disconnect enclosure that is UL-listed, rated for outdoor use, and does not have external handles or switches. Include a hinged door on the enclosure that has provisions for locking by means of a padlock. Mount the auxiliary disconnect on the exterior hub building wall directly opposite of the load center. Install a power distribution system that provides two 120 VAC, 20 A dedicated circuits to the vertical power strips on each of the fifteen (15) proposed and future equipment racks and frames or on each of the twelve (12) proposed and future equipment racks and frames for the 12’ x 16’ hub building. Mount two twist-lock receptacles (one per circuit) in boxes on the ceiling directly above each of the fifteen (15) proposed and future equipment rack and frame installation locations or on each of the twelve (12) proposed and future equipment racks and frames installation locations for the 12’ x 16’ hub building. Provide a dedicated 240 VAC circuit for each HVAC unit.

Install one grounded duplex outlet with GFCI breaker every 6.0 ft. (1.8 m) on each hub building interior wall, and install one grounded duplex outlet with GFCI breaker that is rated for outdoor use on an exterior hub building wall. Provide one dedicated 20 A circuit for interior convenience outlets and one for the exterior convenience outlet.

Install eight 4 ft. (1 m) fluorescent lights (two bulb fixtures) per 384 ft\(^2\) (35.7 m\(^2\)) with one inside switch that is labeled for the interior lights. Install two lights behind each row of proposed equipment frames and racks, no more than 2.5 ft. (0.76 m) from the interior hub walls. Refer to the details for equipment frame/rack layout. Install the remaining four lights in front of the rows of proposed equipment frames and racks. Install all lights to provide lighting throughout the hub building. Install lights such that overhead cables, cable runways, or equipment frames and racks do not block the light. Provide a dedicated circuit for the hub interior lighting.

Install a lightning/surge arrester at the load center for 120/240 V, single phase, 3 wire plus ground that meets the following minimum requirements:

- Mounted in a metal enclosure with LED module status indicators on the enclosure cover
- Connected in parallel
- Rated for a service entrance or distribution panel
- Permanently connected
- Internal overcurrent protection 200 kAIC
- Protection modes L-N, L-G, N-G
- Suppression voltage, L-N, L-G, N-G 400 V
- Surge energy capability, 10/1000 µs, total 5000 joules
Office of Traffic Operations

- Component response time: 1 ns
- Operating temperature: -25 to 170°F (-32 to +77°C)

Install alarm circuit wiring (as specified in 797.3.05.H.2), HVAC control wiring and electrical wiring separately in individual surface mounted EMT conduits.

2. Alarm Equipment

Install an alarm terminal panel, wall mounted 12 in. (H) x 8 in. (W) x 4 in. (D) [300 mm (H) x 200 mm (W) x 100 mm (D)] equipped with 50 pair type 66 punch down terminal blocks. Terminate the surge arrestor alarm circuit and each alarm circuit individually for the open door, high temp., low temp., and smoke alarms on type 66 blocks within the alarm terminal cabinet. Label each alarm terminated on the punch down blocks.

Install open door alarm, high temp alarm, low temp alarm, and smoke alarm with dry relay contacts for normally closed or normally open alarm conditions. (This will interface to communication alarm system; by others).

The building manufacturer shall furnish alarm equipment of a quality equal to or greater than the following examples:

<table>
<thead>
<tr>
<th>Alarm Type</th>
<th>Manufacturer 1</th>
<th>Manufacturer 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Door Alarm:</td>
<td>Rohn Commercial Products</td>
<td>ESSWITCK Southeast Precast</td>
</tr>
<tr>
<td></td>
<td>DTX MS2049FS</td>
<td></td>
</tr>
<tr>
<td>High Temp. Alarm:</td>
<td>Rohn Commercial Products</td>
<td>ES ALARM AC Southeast Precast</td>
</tr>
<tr>
<td></td>
<td>Dayton 2E 206</td>
<td></td>
</tr>
<tr>
<td>Low Temp. Alarm:</td>
<td>Rohn Commercial Products</td>
<td>ES ALARM AC Southeast Precast</td>
</tr>
<tr>
<td></td>
<td>Dayton 2E 206</td>
<td></td>
</tr>
<tr>
<td>Smoke Alarm:</td>
<td>Rohn Commercial Products</td>
<td>ES SMOKE DET Southeast Precast</td>
</tr>
<tr>
<td></td>
<td>ESL 320</td>
<td></td>
</tr>
</tbody>
</table>

3. Cable Runway

Install minimum 24 in. (0.61 m) wide cable runways that are electroplated gold chromate. Cap bare ends of each cable runway with a rubber or plastic cap provided by the cable runway manufacturer. Bond all horizontal and vertical cable runways together at each rigid connection point with copper bonding wires, and bond the four corners of the horizontal cable runway system to the halo bonding wire.

Install horizontal cable runways at 8.5 ft. (2.6 m) above finished floor and as shown in the details. Rigidly mount horizontal cable runways directly from the ceiling using mounting hardware capable of supporting the weight of 15 lb per linear foot of runway. Include with the horizontal cable runways a system of 2 in. (50 mm) ducts designed specifically for the management and protection of fiber optic jumpers as shown in the details; ducts shall connect with the vertical cable management ducts of the Equipment Frames.

Ensure horizontal cable runways do not interfere with vents from roof mounted HVAC units.

Install vertical cable runways 10 in. to 14 in. (250 mm to 360 mm) above finished floor at the fiber optic cable/conduit entry point to the height of the horizontal cable runways and as shown in the details. Do not install vertical cable runways directly above the conduits. Rigidly fasten vertical cable runway(s) to the wall and to the horizontal cable runway. Rigidly mount vertical cable runways directly from the ceiling using mounting hardware capable of supporting 200 lb of weight. Do not attach vertical cable runways to the floor.

4. Exterior Lighting

Install an exterior floodlight as shown in the details controlled by an adjustable motion detector with a switch, labeled for the exterior light, located inside the hub building near the door.
5. Grounding System

Install a halo bonding wire consisting of a continuous run of #2 AWG green insulated stranded copper wire mounted around the perimeter of the interior walls just below the ceiling, as shown in the details. Mount the halo with insulators, maximum 3 ft. (1 m) on center.

Install two (2) halo buss bars and two (2) interior main ground buss bars as shown in the details. Use 0.25 in. x 4 in. x 20 in. (6.4 mm x 100 mm x 500 mm) buss bars fabricated from a copper alloy material compatible with copper wire. Only use buss bars for termination of ground or neutral conductors. Install buss bars to the hub building walls with insulating standoffs. Install each halo buss bar directly above each interior main ground buss bar. If a hub building is constructed as two rooms without a door between them, install two (2) halo and two (2) interior main ground buss bars in each room.

Terminate the ends of the halo bonding wires on the halo buss bars, such that there are two terminations on each halo buss bar. Do not splice the halo bonding wires between halo buss bars. Connect each halo buss bar to the interior main ground buss bar directly below it with a #2 AWG stranded copper bonding wire. Mount the bonding wire to the interior hub building wall with insulators, maximum 2 ft. (0.6 m) on center.

Use minimum #12 AWG stranded copper bonding wire and copper compression lugs or clamps to individually bond all metallic items inside the hub building to the halo bonding wire, including but not limited to metal conduits, cable runways, and door frame. Do not daisy-chain or splice bonding wires, unless specified otherwise. Inside the hub building, bond the hub door to the door frame 6 in. (150 mm) from the top of the door frame with a #6 AWG flexible copper wire or braid of sufficient length to not hinder door movement. Ground equipment racks and frames installed in the hub building by installing a #12 AWG copper bonding wire across the top of all frames and racks. Bond the wire to the top of each frame and rack, and bond the ends of the wire to the halo.

6. HVAC

Install two roof-mounted air conditioners with dehumidifying capability and 4 kW heat strip all controlled from a single thermostat with automatic change over from heating to cooling. Each unit shall have a cooling capacity of 93 BTUs per square foot of hub building space. The units are to be operated by an air conditioner LEAD/LAG controller. The air conditioner controller shall include a contact closure output to report the failure of either of the two air conditioning units.

I. Fire Extinguisher

Provide a 15 lb. wall mounted CO₂ fire extinguisher rated for electrical fires (UL 10B:C). Install the fire extinguisher inside the hub building at the location shown in the details.

J. Fencing

Install an 8 ft. (2.4 m) high, 9 gauge zinc coated chain link fence with double 8 ft. (2.4 m) wide gates. Install 3-strand barbed wire with extension arms on the fence and gates. Provide fencing in accordance with Section 643 of the Georgia Standard Specifications. Install the fence and gates as shown in the details.

Secure the double gates with a padlock at the time of fence installation. Provide three (3) sets of padlock keys to the Project Engineer no more than 18 hours after padlock installation.

K. Foundation

Place a concrete foundation in accordance with the hub manufacturer’s recommendations. All aspects of the final site-specific foundation design are the Contractor’s responsibility, including but not limited to soil analysis and determination of allowable soil bearing strength, all footing and slab dimensions, requirement and design for inner footings, and steel reinforcing members. Design the concrete foundation as a monolithic cast-in-place slab with cast footings at the hub exterior walls as a minimum and a footprint with dimensions equal to the hub building. Use concrete with a minimum strength of 3000 psi (21 MPa) at 28 days. Build the concrete foundation with a minimum thickness of 6 in. (150 mm) in any section.

In the entire upper slab, embed a minimum 6 in. by 6 in. (150 mm by 150 mm) #10 welded steel wire mesh a minimum of 2 in. (50 mm) from upper or lower slab surfaces.

Install footings at a minimum depth of 18 in. (460 mm) below finish grade with a lower horizontal bearing surface no less than 15 in. (380 mm) wide at any point. For all footings, use a minimum of four #4 steel reinforcing bars along the entire footing length with a minimum 3 in. (75 mm) concrete cover in any direction. Connect all steel reinforcing members directly to the exterior ground ring with a minimum #6 AWG solid copper ground wire at each of the four corners of the slab. Do not connect
the slab ground wires to any other ground wire. Provide a minimum 20 mil PVC or polyethylene sheet vapor barrier under the slab and under all footing side and bottom surfaces, except for the side footing surface at the exterior edge of the foundation.

If concrete piers are required by the Plans, construct them to the diameter, depth and number as specified in the building manufacturer’s specifications. Install prefabricated concrete steps to building’s entrance if the ground is a foot or more lower than the entrance.

Securely anchor the building in accordance with the manufacturer’s specifications.

L. Outside Grounding

Install an exterior earth-ground ring as shown in the details, consisting of a system of ground rods connected to a ring of a #2 AWG, stranded bare copper ground wire. Install the ground rods and ground wire at a depth of 1 ft. (0.3 m). Provide access for inspection of the top of the ground rod and the ground wire welded to the ground rod in Type 1 or Type 2 pull boxes meeting the requirements of Section 925.2.33. Do not splice the ground wire between ground rods. Terminate the ground wires only at ground rods. Install a ground system with measured and documented resistance of no more than five (5) ohms. Install an active electrolytic system if soil conditions require this additional system to achieve five (5) ohms or less of grounding resistance.

Use exothermic welds or two-bolt ground rod clamps with preset break-off bolt heads (Electric Motion Company Part #EM2301-01 or approved equivalent) for making all connections from copper ground wires to the ground rods.

Connect the building foundation wire mesh reinforcing to the outside grounding array at each corner of the building using #2 AWG stranded bare copper ground wire.

Ground each building interior main ground buss bar and the hub electrical distribution system through the load center and/or auxiliary disconnect to the nearest ground rod. Use buss bar ground wires that are #2 AWG, stranded bare copper ground wire. For the buss bar ground wires and hub electrical distribution system ground wires, core the hub building wall with maximum 1 in. (30 mm) hole for each ground wire entry. Install the ground wires for the buss bar and hub electrical distribution system connections to the exterior earth ground ring in individual rigid metal conduits inside and outside the hub, not including underground installation. Seal around the rigid conduit connections to the inside and outside hub building walls with masonry grouting on the outside wall and waterproof silicone caulk on the interior wall. Do not use expanding foam or caulk products. Install underground ground wires at a depth of 1 ft. (0.3 m).

Bond the metallic portion of each air conditioner housing that is on the hub building exterior to the nearest ground rod with #2 AWG stranded bare copper ground wire. Terminate the wire to the bottom of the air conditioner housing with copper compression lugs and use insulators to fasten along the hub building wall to the ground level. Bury the remainder of the ground wire underground at a depth of 1 ft. (0.3 m) to the ground rod connection.

Install a #6 AWG stranded bare copper wire along the entire length of the fence, ending at the gate support posts, by weaving the wire through the chain links. Bond or clamp the wire to each fence support post. Make any splice of the copper wire at a fence or gate support post. Weave a #6 AWG stranded bare copper wire through the chain links of both gates of the double gate. Bond or clamp both wires at the gate ends. Bond each of the four fence corner posts and the two gate support posts to the nearest ground rod of the exterior earth ground ring with #6 AWG copper wire that is installed underground at a depth of 1 ft. (0.3 m). Alternately, bond the fence to the ground ring by clamping the earth ground ring copper wires to the fence copper wires at the six fence posts. Bond each gate to a gate support post with a #6 AWG flexible copper braid of sufficient length to not hinder gate movement. Install braid at a height 6 in. (150 mm) from the bottom of the gate.

Install one air terminal on each of the four roof corners, not more than 1 ft. (0.3 m) from the edge of the roof. Use 0.5 in. (12.7 mm) diameter, solid copper air terminals that are 2 ft. (0.6 m) in length with a rounded point. Install air terminals with lag bolts or through bolts. Bond air terminals to the nearest roof and down conductors. Do not use cast or stamped crimptype fittings. Install a No. 1/0 AWG copper cable roof conductor along the perimeter of the roof. Exothermically weld roof conductors to air terminals. Make roof conductor splices only by welding to an air terminal. Install two (2) No. 1/0 AWG copper cables down conductors at diagonally opposite corners of the hub building. Exothermically weld down conductors to air terminals and ground rods. The maximum bend for roof and down conductor cables is 90 degrees with a maximum bend radius of 8 in. (200 mm). Fasten roof and down conductors to the hub building at intervals not exceeding 3 ft. (0.9 m). Use fasteners fabricated of the same material as the conductor being fastened. Attach fasteners with bolts, screws, nails, or adhesive that can withstand a 200 lb (890 N) pull without loosening. Install underground portions of the down conductors at a depth of 1 ft. (0.3 m).

M. Hub Camera

Provide a black and white fixed-position security camera that meets or exceeds the following requirements:
Camera Enclosure: Install the camera body with camera lens in a surface mount enclosure with maximum dimensions of 6 in x 6 in x 6 in (150 mm x 150 mm x 150 mm)

Lens: Equip the camera with auto-iris function and a 4.0 – 8.0 mm manually driven variable focal length lens that is compatible with the CCD image sensor. Effective CCD and lens combination minimum of 0.08 lux at f1.4.

Video Output: NTSC output with a minimum of 460 horizontal TV lines

Power: Provide a camera powered from a 120VAC NEMA 5-15 or 5-20 receptacle. If the camera receives power through an external plug in transformer unit, provide a transformer unit that is rated for continuous duty and that is equipped with a mounting screw to secure the transformer unit to the receptacle faceplate mounting screw position.

Cabling: Provide interconnection cabling as shown in the Plans and in accordance with the requirements for coaxial video patch cords in Section 939.2.A. Provide the camera with coaxial BNC or RCA connector. If the camera uses an RCA connector, provide an RCA-BNC adapter at the camera with gold-plated center pin sockets and shield connection.

Install the camera near the intersection of the wall and ceiling, in a position affording the maximum view of the hub interior and without visual obstruction from cable runways or other materials. Refer to the details for additional installation requirements. Configure the camera mounting and positioning and the lens focal length to maximize the view of the hub interior.

Install a 120VAC 5-15 or 5-20 wall-mount receptacle within 1.0 ft. (0.30 m) of the camera mounting location. Use a branch circuit for the camera receptacle that is separate from any circuit supplying equipment racks and frames.

Neatly dress all wiring.

N. Canopy

Mount a fiberglass canopy above the hub building door that is a minimum of 3.5 ft. (1.1 m) wide and extending 3.5 ft. to 4.5 ft. (1.1 m to 1.4 m) out from the hub building.

O. Electrical Power Service Assembly

Furnish and install electrical cables, conduit and power service necessary to make the hub building electrical system fully operational and in accordance with the Standard Specifications for Electrical Wire and Cable, Electrical Conduit, and Miscellaneous Electrical Materials. Include the underground or aerial power service feed from the electrical service provider’s power source to the electrical power service assembly location. Request that the Department establish the electrical service required for a hub installation as described in Section 939.

Furnish and install all items required for a functional electrical power service assembly, including but not limited to a Class 3, 30 ft. (9 m) timber pole, main power service disconnect, power meter (if required), surge arrester, ground wire, ground rod, rigid vertical conduit, wiring, and hardware. Install a main power service disconnect that is sized according to the hub building power service requirements specified in the Electrical System Distribution section of 797.3.05. Install a main disconnect enclosure that is UL-listed, rated for outdoor use, and does not have external handles or switches. Include a hinged door on the enclosure that has provisions for locking by means of a padlock. Install a surge arrester that is rated for a maximum permissible line to ground voltage of 175 RMS and that conforms with the NEMA standards for surge arrestors. Mount the surge arrester on the main disconnect enclosure. Install a ground wire in a ½ in. (12.5 mm) galvanized rigid steel conduit from the main power service disconnect to a ground rod installed at the base of the pole. From the Type 2 pull box at the base of the pole to the main disconnect, install a 2 in. (50 mm) galvanized rigid steel conduit for the electrical service cable. Furnish and install a service metering base where required by the local utility, electrical codes, or the Plans. Refer to the electrical power service assembly details for additional installation and material requirements.

Install an electrical service Type 2 pull box at the base of the electrical power service assembly pole and adjacent to the hub building. Between these pull boxes, install nonmetal, Type 2, 2 in. (50 mm) conduit for electrical service cable installation. Where the distance between these pull boxes is greater than 500 ft. (150 m), install a minimum of one electrical service Type 2 pull box for every 500 ft. (150 m) of uninterrupted conduit length. Install electrical service cable from the main disconnect at the electrical power service assembly to the auxiliary disconnect at the hub in the conduits and pull boxes specified within this section and the Electrical System Distribution section of 797.3.05. Provide an electrical service cable that includes ground conductor that connects between the main disconnect buss bar at the electrical power service assembly and the buss bar of the auxiliary disconnect buss at the hub. Do not use electrical service conduit in place of the ground conductor.

Use rigid metal for all aboveground electrical conduit and conduits bodies. For each hub building power service drop, dedicate an electrical service conduit from the electrical utility drop point through the meter base and main disconnect and to the hub.
building. Do not install any other wiring in the electrical service conduit. Do not splice any cable, shield or conductor used for power service.

P. Driveway, Approach, Parking Area

Place and compact 6 in (150 mm) of graded aggregate base to the limits shown in the Plans in accordance with Section 310. Place asphaltic concrete of the depth and type specified in the Plans to the limits noted in the Plans, and in accordance with Section 402.

797.3.06 Quality Acceptance

A. Operating Environment

Seal the shelter to resist dust and water infiltration.

B. Exterior

Install a building that can withstand 7.62 mm round fired from a rifle at a distance of 15 ft. (4.6 m) per UL 752 standards. Install a canopy that can withstand wind loading of 115 mph (185 km/h).

C. Testing

Test the grounding system in the presence of the Engineer.

797.3.07 Contractor Warranty and Maintenance

Provide a one-year warranty on the building structure, as well as usual and customary O.E.M. warranties on all equipment installed in the building.

797.4 Measurement

Hub Buildings are measured for payment by the number installed, complete functional, and accepted, including the building components, HVAC, interior electrical distribution system, interior and exterior lighting, fire extinguisher, hub camera, lightning protection system, interior and exterior grounding, foundation, graded aggregate base, and fencing around the hub building, and any miscellaneous incidental items necessary to complete the work.

797.4.01 Limits

Not applicable

797.5 Payment

Hub Buildings, complete and in place according to this Specification and accepted by the Department, are paid for within the lump sum Contract Price. No separate payment shall be made. Payment is full compensation for procurement, transportation, site preparation, grading, installation, fees, and permits. Payment for horizontal runs of conduit and copper cable outside the hub building, pull boxes, and directional boring that are associated with the power service assembly for the hub building are also included in the Lump Sum Contract Price. No separate payment shall be made.

797.5.01 Adjustments

Not applicable
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 150—Traffic Control

150.1 General Description

This section, as supplemented by the Plans, Specifications, and Manual on Uniform Traffic Control Devices (MUTCD) shall be considered the Temporary Traffic Control (TTC) Plan in accordance with Work Zone Safety and Mobility Policy. Activities shall consist of furnishing, installing, maintaining, and removing necessary traffic signs, pedestrian signs, barricades, lights, signals, cones, pavement markings and other traffic control devices and shall include flagging and other means for guidance and protection of vehicular and pedestrian traffic through the Work Zone. This Work shall include both maintaining existing devices and installing additional devices as necessary in construction work zones.

The contractor shall be responsible for the maintenance of traffic signals and Advanced Traffic Management system (ATMs) devices from the time that the system is modified until final acceptance. The maintenance of traffic signals and ATMs devices that are not a part of the work and that are not in conflict with any portion of the work shall not be the responsibility of the contractor. However, the contractor is still responsible for damages to all devices that he or his subcontractors cause, in accordance with Section 107 and other specifications.

When any provisions of this Specification or the Plans do not meet the minimum requirements of the MUTCD, the MUTCD shall control. The 2009 Edition of the MUTCD shall be in effect for the duration of the project.

All traffic control devices used during the construction of the project shall meet the standards utilized in the MUTCD, and shall comply with the requirements of these Specifications, Georgia Construction Standards and Details, Project Plans, Design Manuals, and Special Provisions.

The needs and control of all road users (motorists, bicyclists and pedestrians within the highway right-of-way and easements, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations and management of traffic incidents.

Utilities included in the contract are bounded by Special Provision 150 and shall follow its requirements. For utilities not included in the contract but working within the project limits, they shall, at a minimum follow the MUTCD. Moreover, in accordance with Utility Accommodation Policy and Standards Manual dated 2016, the Engineer reserves the right to require additional certified flaggers, signs, warning lights, channelization devices, and other safety devices as may be necessary to properly protect, warn, and safeguard the traveling public. In addition, the Department reserves the right to place time restrictions or moratoriums on all utility work covered under a permit when, in the opinion of the Department, the continuance of the Work would seriously hinder traffic flow, be needlessly disruptive, or would unnecessarily inconvenience the traveling public. In case of emergencies, Utilities shall be provided access in accordance with Utility Accommodation Policy and Standard Manual.

150.1.01 Definitions

For Special Provision 150, the definitions for “shall”, “should”, and “may” will be in accordance with MUTCD (1A.13).

Shall (Standard) - a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device.
Should (Guidance) - a statement of recommended, but not mandatory, practice in typical situations, with deviations allowed if engineering judgment or engineering study indicates the deviation to be appropriate.

May (Option) — a statement of practice that is a permissive condition and carries no requirement or recommendation.

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150.1.01 Definitions

150.1.02 Content

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2. Difference of Two Inches (≤ 2") or Less Between Adjacent Travel Lane and Paved Shoulder Should
3. Difference of Greater Than Two Inches (>2") is Permitted for Continuous Operations
4. Difference of Greater Than Two Inches (>2") Between Travel Lanes and/or Shoulders for Non-Continuous Operations

B. Healed Section
C. Emergency Situations
D. Plating
E. Asphaltic Concrete Resurfacing Projects

1. Shoulder Construction Included as a Part of the Contract
2. Shoulder Construction Not Included as a Part of the Contract

150.3.12 Work Zone Law Enforcement

150.4 Measurement

150.4.01 Traffic Control Items

A. Traffic Control
B. Changeable Message Sign, Portable
C. Flashing Beacon Assembly
D. Pavement Markings
E. Portable Impact Attenuators
F. Signs

1. Interim Ground Mounted or Interim Overhead Special Guide Signs
2. Remove And Reset Existing Special Guide Signs, Ground Mount or Overhead
3. Modify Special Guide Signs, Ground Mount or Overhead

G. Temporary Audible Information Device
H. Temporary Barrier
I. Temporary Curb Cut Wheelchair Ramps
J. Temporary Guardrail Anchorage, Type 12
K. Temporary Walkways with Detectable Edging
L. Traffic Signal Installation - Temporary
M. Work Zone Law Enforcement

150.5 Payment

150.5.01 Enforcement and Adjustments

150.1.03 Related References

A. Standard Specifications

Section 104-Scope of Work
Section 105-Legal Regulations and Responsibility to the Public
Section 107-Legal Regulations and Responsibility to the Public
Section 108-Prosecution and Progress
Section 209-Subgrade Construction
Section 400-Hot Mix Asphaltic Concrete Construction
Section 441-Miscellaneous Concrete
Section 429-Rumble Strips
Section 620-Temporary Barrier
Section 632-Portable Changeable Message Signs
Section 641-Guardrail
Section 647-Traffic Signal Installation
Section 648-Traffic Impact Attenuator
Section 652-Painting Traffic Stripe
Section 653 – Thermoplastic Traffic Stripe
Section 654-Raised Pavement Markers
Section 656-Removal of Pavement Markings
Section 657 – Preformed Plastic Pavement Markings
Section 658 – Standard and Wet Weather Polyurea Traffic Stripe
Section 659 Hot Applied Preformed Plastic Pavement Markings
Section 911-Sign Posts
Section 912-Sign Blanks and Panels
Section 913 – Reflectorizing Materials
B. Referenced Documents

ASTM D4956-13 (Retro-reflectivity)

American Traffic Safety Services Association (ATSSA)

Construction Detail A-3 Curb Cut (Wheelchair) Ramps Concrete Sidewalk Details

Construction Detail A-4 Detectable Warning Surface Truncated Dome Size, Spacing and Alignment Requirements

Construction Detail T-3A (Type 7, 8, and 9 Square Tube Post Installation Detail)

GDOT Signing and Marking Design Guidelines

Georgia Standard 4000W “Lengths of Advancement, Clear Zone Distances, Fill Height Embankment”

Georgia Standard 4960 “Temporary Barrier (End Treatment Options)”

Georgia Standard 9102 “Traffic Control Detail for Lane Closure on Two-Lane Highway”

Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway”

Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway”

Georgia Standard 9121 “Tapers, Signs, and Markings for Passing Lanes”

Manual for Assessing Safety Hardware (MASH)

Manual on Uniform Traffic Control Devices (MUTCD)

National Cooperative Highway Research Program (NCHRP) 350

National Safety Council

Quality Product List #29 (QPL-29) Reflective Sheeting

Quality Product List #34 (QPL-34) Work Zone Traffic Control Devices (Drums, Type III Barricades, Vertical Panels, and Portable Sign Systems)

Quality Product List #35 (QPL-35) Drive Type Galvanized Steel Sign Posts

Quality Product List #46 (QPL-46) Traffic Pavement Markings

Quality Product List #64 (QPL-64) Attenuator Units (Compression Crash Cushion) and Guardrail End Treatments

Quality Product List #76 (QPL-76) Raised Pavement Markers and Channel Markers

Quality Product List #79 (QPL -79) Portable Arrow Boards

Quality Product List #82 (QPL -82) “Portable Changeable Message Signs”

Utility Accommodation Policy and Standards Manual

Work Zone Safety and Mobility Policy

150.1.04 Submittals/Preconstruction
A. Worksite Traffic Control Supervisor

The Contractor shall designate a qualified individual as the Worksite Traffic Control Supervisor (WTCS). The WTCS shall be responsible for selecting, installing and maintaining all traffic control devices in accordance with the Plans, Specifications, Special Provisions and the MUTCD. The WTCS shall be currently certified by the American Traffic Safety Services Association (ATSSA) Work Site Traffic Supervisor Certification program or the National Safety Council Certification program. On-line classes will not be accepted.

The WTCS shall be available on a twenty-four (24) hour basis to perform his duties. If the work requires traffic control activities to be performed during the daylight and nighttime hours, it may be necessary for the Contractor to designate an alternate WTCS. An alternate WTCS must meet the same requirements and qualifications as the primary WTCS and be accepted by the Engineer prior to beginning any traffic control duties. The Worksite Traffic Control Supervisor’s traffic control responsibilities shall have priority over all other assigned duties.

As the representative of the Contractor, the WTCS shall have full authority to act on behalf of the Contractor in administering the TTC Plan. The WTCS shall have appropriate training in safe traffic control practices in accordance with Part 6 of the MUTCD. In addition to the WTCS, all other individuals making decisions regarding traffic control shall meet the training requirements of the Part 6 of the MUTCD.

The Worksite Traffic Control Supervisor (WTCS) shall have a copy of Part 6 of the MUTCD and the Contract on the job site. Copies of the current MUTCD may be obtained from the FHWA web page at http://mutcd.fhwa.dot.gov.

The WTCS shall supervise the initial installation of traffic control devices. The Engineer, prior to the beginning of construction, will review the initial installation. Modifications to traffic control devices as required by sequence of operations or staged construction shall be reviewed by the WTCS.

Any work performed on the interstate or limited access highway right-of-way that requires traffic control shall be supervised by a submitted/approved certified Worksite Traffic Control Supervisor. No work requiring traffic control shall be performed unless the certified WTCS is on the worksite. Failure to maintain a Certified Worksite Traffic Control Supervisor on the work will be considered as non-performance under Subsection 150.5.01.

The WTCS or alternate WTCS shall be available on a full-time basis to maintain traffic control devices with access to all personnel, materials, and equipment necessary to respond effectively to an emergency situation within forty-five (45) minutes of notification of the emergency.

The WTCS shall perform inspections, at a minimum once a month, to ensure that traffic control is maintained. For all interstate and limited access highways, the WTCS shall perform, as a minimum, weekly traffic control inspections. The inspections will start with the installation of the advance warning signs and will stop when a maintenance acceptance is issued or when the punch list is completed.

An inspection shall include both daytime and nighttime reviews. The inspection shall be reported to the Engineer on a Traffic Control Inspection Report, (TC-1). Unless modified by the special conditions or by the Engineer, routine deficiencies shall be corrected within a twenty-four (24) hour period. Failure to comply with these provisions shall be grounds for dismissal from the duties of WTCS and/or removal of the WTCS from the project. Failure of the WTCS to execute his duties shall be considered as non-performance under Subsection 150.5.01.
TRAFFIC CONTROL INSPECTION REPORT (TC-1)

Project No.: ___________________________ County: ________________
Contractor: ___________________________ Date: ___________ Daytime: ______________

Nighttime: ______________

PURPOSE: To provide adequate warning, delineation, and channelization to assist in guiding road users in advance of and through the work zone by utilizing proper pavement markings, signs, and other MUTCD compliant devices.

RESPONSIBILITY: The Worksite Traffic Control Supervisor (WTCS) has the duty of ensuring that all traffic control devices are installed and maintained according to the requirements of the Traffic Control Plan.

DEFICIENCIES: Items noted below required corrective measures be performed with the next ___ hours/days.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DESCRIPTION</th>
<th>ACTION REQUIRED</th>
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<tbody>
<tr>
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</table>

(Use additional sheets if needed)

Signature: ___________________________ WTCS or DOT performing inspection

DOT inspection presented to WTCS Date: ___________ Time: ___________

TO BE COMPLETED BY THE WTCS

The attached deficiencies were corrected by Date: ___________ Time: ___________

Signature ___________________________ Return TC-1 to DOT inspector.

The WTCS certifies that all traffic control devices in use on the project are MASH/NCHRP 350 crashworthy compliant.
<table>
<thead>
<tr>
<th>Traffic Control Checklist</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Non-applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signs</strong></td>
<td>S</td>
<td>U</td>
<td>N</td>
</tr>
<tr>
<td>• Are the signs correctly installed?</td>
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<tr>
<td>• Signs are in place according to TTC plans. Signs are plumb and level. Signs are at the proper height.</td>
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<tr>
<td>• Are the signs visible and readable to the public both daytime and nighttime?</td>
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<tr>
<td>• Is retroreflectivity good?</td>
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<tr>
<td>• Are signs not in use including PCMS properly stored?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TTC Devices</strong></td>
<td>S</td>
<td>U</td>
<td>N</td>
</tr>
<tr>
<td>• Are they MASH/NHCRP 350 approved? Do they meet MUTCD and Special Provision 150 requirements?</td>
<td></td>
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<tr>
<td>• Are they installed according to manufacture recommendation?</td>
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<tr>
<td>• Are they in acceptable/marginal condition? Are they stable? Is the retroreflectivity good?</td>
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<tr>
<td><strong>Clear Zone</strong></td>
<td>S</td>
<td>U</td>
<td>N</td>
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<tr>
<td>• Are all material and equipment stored beyond the clear zone?</td>
<td></td>
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<td></td>
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<tr>
<td>• If stored in clear zone, are they protected by positive barrier?</td>
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<td></td>
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<tr>
<td>• Are drop-off marked and healed according to Special Provision 150?</td>
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<td></td>
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<tr>
<td><strong>Positive Barriers</strong></td>
<td>S</td>
<td>U</td>
<td>N</td>
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<tr>
<td>• Are the barriers in acceptable/marginal condition and FHWA approved?</td>
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<tr>
<td>• Are the barrier reflectors proper and in good condition?</td>
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<tr>
<td>• Do the barriers extend to the proper advancement length? Are the tapers according to GA Standards?</td>
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<td></td>
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<tr>
<td><strong>Attenuators and Guardrails</strong></td>
<td>S</td>
<td>U</td>
<td>N</td>
</tr>
<tr>
<td>• Are the proper attenuators assemblies in use?</td>
<td></td>
<td></td>
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<tr>
<td>• Gating Is the recovery area free of debris and provide the necessary recovery area?</td>
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<tr>
<td>• Is the assembly in accordance with manufacture recommendation?</td>
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<tr>
<td>• Are the guardrails properly anchor and/or attached to the barrier?</td>
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<tr>
<td>• Are shoes and transition sections in accordance with Standards?</td>
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<tr>
<td><strong>Pavement Markings</strong></td>
<td>S</td>
<td>U</td>
<td>N</td>
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<tr>
<td>• Are the pavement making visible and legible?</td>
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<tr>
<td>• Can they be seen during the daytime and nighttime?</td>
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<tr>
<td>• Are there no conflicting pavement markings?</td>
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<td></td>
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<tr>
<td>• Are the pavement markings including RPM installed and maintained according to section 150?</td>
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</table>
The Engineer will periodically review the work for compliance with the requirements of the TTC plan.

On projects where traffic control duties will not require full time WCTS supervision, the Engineer may allow the Contractor’s Project superintendent, foreman, subcontractor, or other designated personnel to serve as the WTCS as long as satisfactory results are obtained. Nevertheless, the individual shall meet the requirements and perform the duties of a WTCS.

B. Sequence of Operations

Any Sequence of Operations provided in this Contract in conjunction with any staging details which may be shown in the plans, is a suggested sequence for performing the Work. It is intended as a general staging plan for the orderly execution of the work while minimizing the impact on pedestrian facilities, mainline, cross-streets and side streets. The Contractor shall develop detailed staging and temporary traffic control plans for performing specific areas of the Work including but not limited to all traffic shifts, detours, bridge widenings, paces, or other activities that disrupt traffic or pedestrian flow. The Engineer may require detailed staging and TTC plans for lane closures or disruption to pedestrian facilities. These plans shall be submitted for approval at least two (2) weeks prior to the scheduled date of the activity. Activities that have not been approved at least seven (7) days prior to the scheduled date shall be rescheduled.

Where traffic is permitted through the work area under stage construction, the Contractor may choose to construct, at no additional expense to the Department, temporary on-site bypasses or detours in order to expedite the work. Plans for such temporary bypasses or detours shall be submitted to the Engineer for review and approval thirty (30) calendar days prior to the proposed construction. Such bypasses or detours shall be removed promptly when in the opinion of the Engineer; they are no longer necessary for the satisfactory progress of the Work. Bypasses and detours shall meet the minimum requirements of Subsection 150.3.01.D.

As an option to the Sequence of Operations in the Contract, the Contractor may submit an alternative Sequence of Operations for review and approval. Alternate Sequence of Operations for pedestrian facilities shall be in compliance with the MUTCD and ADA. Pedestrian needs identified in the preconstruction phase shall be included in the proposed alternate plan.

The Department will not pay, or in any way, reimburse the Contractor for claims arising from the Contractor’s inability to perform the Work in accordance with the Sequence of Operations provided in the Contract or from an approved Contractor alternate.

The Contractor shall secure the Engineer’s approval of the Contractor’s proposed plan of operation, sequence of work and methods of providing for the safe passage of vehicular and pedestrian traffic before it is placed in operation. The proposed plan of operation shall supplement the approved traffic control plan. Any major changes to the approved TTC plan, proposed by the Contractor, shall be submitted to the Department for approval.

Some additional traffic control details will be required prior to any major shifts or changes in traffic. The traffic control details shall include, but not be limited to, the following:

1. A detailed drawing showing traffic locations and lanes for each step of the change.
2. The location, size, and message of all signs required by the MUTCD, Plan, Special Provisions, and other signs as required to fit conditions. Any portable changeable message signs used shall be included in the details.
3. The method to be used in, and the limits of, the obliteration of conflicting lines and markings.
4. Type, location, and extent of new lines and markings.
5. Horizontal and vertical alignment and superelevation rates for detours, including cross-section and profile grades along each edge of existing pavement.
6. Drainage details for temporary and permanent alignments.
7. Location, length, and/or spacing of channelization and protective devices (temporary barrier, guardrail, barricades, etc.)
8. Starting time, duration and date of planned change.

9. For each traffic shift, a paving plan, erection plan, or work site plan, as appropriate, detailing workforce, materials, and equipment necessary to accomplish the proposed work. This will be the minimum resource allocation required in order to start the work.

A minimum of three (3) copies of the above details shall be submitted to the Engineer for approval at least fourteen (14) days prior to the anticipated traffic shift. The Contractor shall have traffic control details for a traffic shift which has been approved by the Engineer prior to commencement of the physical shift. All preparatory work relative to the traffic shift, which does not interfere with traffic, shall be accomplished prior to the designated starting time. The Engineer and the Contractor’s representative will verify that all conditions have been met prior to the Contractor obtaining materials for the actual traffic shift.

C. Pedestrian Considerations

All existing pedestrian facilities, including access to transit stops, shall be maintained. Where pedestrian routes are closed, alternate routes shall be provided. Closures of existing, interim and final pedestrian facilities shall have the prior written approval of the Engineer. When existing pedestrian facilities are disrupted, closed or relocated in a TTC zone, the temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility. Pedestrian facilities are considered improvements and provisions made to accommodate or encourage walking. Whenever a sidewalk is to be closed, the Engineer shall notify the maintaining agency two (2) weeks prior to the closure. Prior to closure, detectable barriers (that are detectable by a person with a visual disability traveling with the aid of a long cane), as described by the MUTCD, shall be placed across the full width of the closed sidewalk. Barriers and channelizing devices used along a temporary pedestrian route shall be in compliance with the MUTCD.

Temporary Traffic Control devices used to delineate a Temporary Traffic Control Zone Pedestrian Walkway shall be in compliance with Subsection 150.3.01.A. Appropriate signs as described in the MUTCD shall be maintained to allow safe passage of pedestrian traffic or to advise pedestrians of walkway closures (Refer to MUTCD Figures TA-28 and TA-29 for guidance). Advance closure signing should be placed at intersections rather than midblock locations so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing. Temporary Traffic Control devices and construction material shall not intrude into the usable width of the pedestrian walkway. Signs and other devices shall be placed such that they do not narrow or restrict any pedestrian passage to less than forty-eight inches (≥ 48").

1. Pedestrian Signage

A pedestrian walkway shall not be severed or relocated for non-construction activities, such as parking for construction vehicles and equipment. Movement by construction vehicles and equipment across designated pedestrian walkways should be minimized. When necessary, construction activities shall be controlled by flaggers. Pedestrian walkways shall be kept free of mud, loose gravel or other debris.

When temporary covered walkways are used, they shall be lighted during nighttime hours. When temporary traffic barrier is used to separate pedestrian and vehicular traffic, the temporary barrier shall meet NCHRP-350 Test Level Three. The barrier ends shall be protected in accordance with Georgia Standard 4960. Curbing shall not be used as a substitute for temporary traffic barriers when temporary traffic barriers are required. Tape, rope or plastic chain strung between temporary traffic control devices are not considered as detectable and shall not be used as a control for pedestrian movements.

The WTCS shall inspect the activity area daily to ensure that effective pedestrian TTC is being maintained. The inspection of TTC for pedestrian traffic shall be included as part of the TC-1 report.

2. Temporary Pedestrian Facilities

Temporary pedestrian facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. The geometry, alignment and construction of the facility should meet the
applicable requirements of the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)”.

a. Temporary Walkways with Detectable Edging

A smooth, continuous hard surface (firm, stable and slip resistant) shall be provided throughout the entire length of the temporary pedestrian facility. Compacted soils, sand, crushed stone or asphaltic pavement millings shall not be used as a surface course for walkways.

Temporary walkways shall include detectable edging as defined in the MUTCD. When temporary traffic barrier is included as a pay item in the contract and where locations identified on the plans for positive protection will also allow them to serve as pedestrian detectable edging, payment will be made for the temporary traffic barrier in accordance with Section 620. No payment will be made for temporary walkways with Detectable Edging where existing pavements or existing edging (that meets the requirements of MUTCD) are utilized as temporary walkways. Payment for temporary detectable edging, including approved barriers and channelizing devices, installed on existing pavements shall be included in Traffic Control-Lump Sum.

Regardless of the materials used, temporary walkways shall be constructed with sufficient thickness and durability to withstand the intended use for the duration of the construction project. If concrete or asphalt is used as the surface course for the walkway, it shall be a minimum of one and one-half inches (≥ 1-1/2") thick. Temporary walkways constructed across unimproved streets and drives shall be a minimum thickness of four inches (≥ 4") for concrete and three inches (≥ 3") for asphalt. Joints formed in concrete sidewalks shall be in accordance with Section 441. Concrete surfaces shall have a broom finish.

If plywood is used as a walkway, it must be a minimum of three quarters of an inch (≥ 3/4") thick, pressure treated and supported with pressure treated longitudinal joists spaced a maximum of sixteen inches (≤ 16") on center. The plywood shall be secured to the joist with galvanized nails or galvanized deck screws. Nails and screws shall be countersunk to prevent snagging or tripping the pedestrians. A slip resistant friction course shall be applied to any plywood surface that is used as a walkway. Any slip resistant material used shall have the prior written approval of the engineer.

The contractor may propose alternate types of Temporary Walkways provided that the contractor can document that the proposed walkway meets the requirements of the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)” . Alternate types of Temporary Walkways shall have the prior written approval of the engineer.

Temporary walkways shall be constructed and maintained so there are no abrupt changes in grade or terrain that could cause a tripping hazard or could be a barrier to wheelchair use. The contractor shall construct and maintain the walkway to ensure that joints in the walkway have a vertical difference in elevation of no more than one quarter (≤ 1/4") of an inch and that the horizontal joints have gaps no greater than one half (≤ 1/2") of an inch. The grade of the temporary walkway should parallel the grade of the existing walkway or roadway and the cross slope should be no greater than two percent (≤ 2%).

A width of sixty inches (60"), if practical, should be provided throughout the entire length of any temporary walkway. The temporary walkway shall be a minimum width of forty eight inches (48”). When it is not possible to maintain a minimum width of sixty inches (60") throughout the entire length of temporary walkway, a sixty inch (60") by sixty inch (60") passing space should be provided at least every two hundred feet (200 ft.), to allow individuals in wheelchairs to pass.

Temporary walkways shall be constructed on firm subgrade. Compact the subgrade according to Section 209. Furnish and install any needed temporary pipes prior to constructing any walkway to ensure positive drainage away from or beneath the temporary walkway. Once the walkway is no longer required, remove any temporary materials and restore the area to the original conditions or as shown in the plans.

b. Temporary Curb Cut Wheelchair Ramps

Temporary curb cut wheelchair ramps shall be constructed in accordance with Section 441 and Construction Detail A-3 Curb Cut (Wheelchair) Ramps Concrete Sidewalk Details. Ramps shall also include a detectable
warning surface in accordance with Construction Detail A-4 Detectable Warning Surface Truncated Dome Size, Spacing and Alignment Requirements. Other types of material for the construction of the temporary curb cut wheelchair ramps, including the detectable warning surface, may be used provided the contractor can provide documentation that the material to be used meets the requirements of the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)”. When a wheelchair ramp is no longer required, remove the temporary materials and restore the area to existing conditions or as shown in the plans. For the items required to restore the area to original conditions or as shown in the plans, measures for payment shall be covered by contract pay items. If pay items are not included in the contract, then payment for these items shall be included in Traffic Control-Lump Sum.

c. Temporary Audible Information Device

Temporary audible information devices, when shown in the plans, shall be installed in compliance with the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)”. The devices shall be installed in accordance with the manufacturer’s recommendations. Prior to installation, the contractor shall provide the engineer with a set of manufacturer’s drawings detailing the proper installation procedures for each device. When no longer required, the devices shall remain the property of the contractor.

150.2 Materials and Traffic Control Devices

150.2.01 Traffic Control Devices

A. NCHRP 350 and MASH

All devices shall be certified in accordance with the Manual for Assessing Safety Hardware (MASH) Test Level 3 and/or the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 as applicable unless modified by this Special Provision. In addition, temporary work zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested under 2016 edition of MASH requirements. Such devices manufactured on or before this date, and successfully tested under either NCHRP Report 350 or the 2009 edition of MASH, may continue to be used throughout their normal service lives.

B. Approval

All traffic control devices with applicable Qualified Products List (QPL) categories shall come from the appropriate QPL list. Products not on the QPL may be used with an approval letter from the Georgia Department of Transportation Office of Materials and Testing. If there are no applicable QPL, the Contractor shall provide proof of MASH/NCHRP 350 certification. The proof may be a letter or written statement from the manufacturer that the product is MASH/NCHRP 350 approved. Decal certifications are not proof of certification and are not required.

C. Quality Guidelines for All Temporary Traffic Devices

All traffic control devices found to be unacceptable in accordance with the current ATSSA, “Quality Guidelines for Temporary Traffic Devices and Features” regardless of total numbers shall be replaced within twenty-four (24) hours unless stated otherwise in the specifications, in the contract, or as directed by the Engineer.

150.2.02 Retroreflectivity Requirements

A. Signs

Reflective sheeting should meet the requirements of Section 913 and QPL-29

All construction warning signs (black on fluorescent orange) shall meet the minimum reflectivity and color requirements of ASTM D4956 Type XI regardless of the mounting height. All other signs reflectorization shall be in accordance with the plans, contract, and “GDOT Signing and Marking Design Guidelines”.

B. Channelization Devices
Reflective sheeting should meet the requirements of Section 913 and QPL-29. All channelization devices (white/fluorescent orange and white/red) shall meet the minimum retroreflectivity requirements of ASTM D4956 Type VI.

150.2.03 Arrow Panels

Arrow panel should meet the requirements for MUTCD (6F.61) and QPL-79. Portable sequential arrow, sequential chevron, or flashing arrow panels shall be a minimum size of forty-eight inches (48") high by ninety-six inches (96") wide with not less than fifteen (15) lamps used for the arrow. The arrow shall occupy virtually the entire size of the arrow panel and shall have a minimum legibility distance of one (1) mile. The minimum legibility distance is the distance at which the arrow panel can be comprehended by an observer on a sunny day, or clear night. Arrow panels shall be equipped with automatic dimming features for use during hours of darkness. The arrow panels shall also meet the requirements for a Type C panel as shown in the MUTCD (6F.61). The sequential or flashing arrow panels shall not be used for lane closure on two-lane, two-way highways when traffic is restricted to one-lane operations in which case, appropriate signing, flaggers and when required, pilot vehicles will be deemed sufficient.

The arrow panels shall be placed on the shoulder at or near the point where the lane closing transition begins. The panels shall be mounted on a vehicle, trailer, or other suitable support. Vehicle mounted panels shall be provided with remote controls. Minimum mounting height shall be seven feet (7’) above the roadway to the bottom of the panel, except on vehicle mounted panels which should be as high as practical.

For emergency situations, arrow display panels that meet the MUTCD requirements for Type A or Type B panels may be used until Type C panels can be located and placed at the site. The use of Type A and Type B panels shall be held to the minimum length of time possible before having the Type C panel(s) in operation. The Engineer shall determine when conditions and circumstances are considered to be emergencies. The Contractor shall notify the Engineer, in writing, when any non-specification arrow display panel(s) is being used in the work.

150.2.04 Channelization Devices

A. General

Channelization shall clearly delineate the travel way through the work zone and alert drivers and pedestrians to conditions created by work activities in or near the travel way. Channelization shall be accordance with the plans, specifications, MUTCD, QPL-34, and the following requirements.

B. Drums

1. Design

Drums shall meet the minimum requirement of the MUTCD (6F.67). For all projects let June 2018 and afterward, drums shall have six inch (6") wide stripes – white/fluorescent orange.

2. Application

Drums shall be used as the required channelizing device to delineate the full length of a lane closure, shift, or encroachment, except as modified by this Subsection.

3. Longitudinal Channelization

Drums shall be spaced as listed below for various roadside work conditions except as modified by Subsection 150.3.11. Spacing shall be used for situations meeting any of the conditions listed as follows:

   a. FORTY FOOT (40’) SPACING MAXIMUM
- For difference in elevation exceeding two inches (> 2”).
- For healed sections no steeper than 4:1 as shown in Subsection 150.3.11, Detail 150-H.

b. EIGHTY FOOT (80’) SPACING MAXIMUM
- For difference in elevation of two inches (≤ 2”) or less.
- Flush areas where equipment or workers are within ten feet (≤ 10’) of the travel lane.

c. 200 FOOT SPACING MAXIMUM: Where equipment or workers are more than ten feet (> 10’) from travel lane. Lateral offset clearance to be four feet (4’) from the travel lane.
- For paved areas, eight feet (> 8’) or greater in width that are paved flush with a standard width travel lane.
- For disturbed shoulder areas not completed to typical section that are flush to the travel lane and considered a usable shoulder.

4. Removal of Drums

Drums may be removed after shoulders are completed to typical section and grassed. Guardrail and other safety devices shall be installed and appropriate signs advising of conditions such as soft or low shoulder shall be posted before the drums are removed.

C. Vertical Panels

1. Design

All vertical panels shall meet the minimum requirements of the MUTCD (6F.66). All vertical panels shall have a minimum of 270 square inches of retroreflective area facing the traffic and be a minimum thirty-six inches (≥ 36”) high. For all projects let June 2018 and afterward, the vertical panel shall be in addition a minimum eight inches (≥ 8”) wide with a stripe width of six inches (6”) – white/fluorescent orange.

2. Application

Vertical panels with retroreflectivity less than type VI can only be used when traffic drums reduce the travel lane to less than ten feet (≤ 10’); vertical panels shall be used to restore the travel lane to ten feet (≥ 10’) or greater. No other application of vertical panels with retroreflectivity less than type VI will be permitted.

Vertical panels with a minimum type VI retroreflectivity and six inch (6”) stripe may be used for longitudinal channelization in the activity zone where work takes place for short-term stationary lane closures and intermediate-term stationary lane closures. They can be used for lane closures lasting three (3) days and with Engineer approval up to seven (7) days. They shall not be used in the transition zone including the tapers and the tangent lengths between tapers.

D. Cones

1. Design:

All cones shall be a minimum of twenty-eight inches (≥ 28”) in height regardless of application and shall meet the requirements of the MUTCD (6F.64).

Retroreflectivity may be be deleted from all cones.

2. Application

On interstate cones shall be prohibited. On all other routes cones may only be used for longitudinal channelization in the activity zone where work takes place for short-term stationary lane closures. They shall not be used in the
transition zone including the tapers and the tangent lengths between tapers. The use of cones for nighttime work will not be permitted. Cones shall not be stored or allowed to be visible on the worksite during nighttime.

Cones may be used for daytime flagging operations including tapers at flagging stations.

E. Barricades

1. Design

Type 3 barricades shall meet the minimum requirements of the MUTCD (6F.68). The Contractor has the option of choosing Type 3 barricades from the QPL-34 or the Contractor may utilize generic barricades that are approved by the Federal Highway Administration (FHWA). When barricades have been specifically crash tested with signs attached, the contractor has the responsibility to attach the signs as per the manufacturer’s recommendations to ensure crashworthiness. If the barricades were not tested with the signs, crashworthy compliance may require that rigid signs be mounted separate from the Type 3 barricade.

The use of Type 1 and Type 2 barricades will not be permitted.

2. Application

Type 3 barricades shall be placed as required by the plans, the Standards, and as directed by the Engineer.

When a barricade is placed so that it is subject to side impact from a vehicle, a drum shall be placed at the side of the barricade to add target value to the barricade.

F. Warning Lights

1. Design

All warning lights shall meet the requirements of the MUTCD (6F.83).

2. Application:

   a. Type A low-intensity flashing lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer.

   b. Type C Steady-Burn lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer.

150.2.05 Flashing Beacon

The flashing beacon assembly, when specified, shall be used in conjunction with construction warning signs, regulatory, or guide signs to inform traffic of special road conditions which require additional driver attention. The flashing beacon assembly shall be installed in accordance with the requirements of Section 647.

150.2.06 Guardrail

Guardrail shall comply with Section 641 Guardrail and the guardrail standards.

When the removal and installation of guardrail is required, as a part of the work, the following time restrictions shall apply unless modified by the special conditions:

From the time that the existing guardrail or temporary positive barrier protection is removed, the Contractor has fourteen (14) days to install the new guardrail and anchors. During the interim, the location without guardrail shall be protected with drums spaced at a maximum spacing of twenty feet (20’). The guardrail blunt end is to be treated as a fix object and shall be projected. The maximum length of rail that can be removed at any time without being replaced with positive barrier protection is a total of 2000 linear feet of existing rail or the total length of one run of existing rail, whichever is less. Based on existing field conditions, the Engineer may review the work and require that the guardrail be installed earlier than the maximum time allowed.
The contractor shall install new guardrail, such that traffic exposure to fixed objects is minimized. Within the same workday, temporary attenuators, as defined in Subsection 150.2.10, should be installed on the approach to fixed objects that can’t be protected with guardrail. Truck mounted attenuators may be used to shield exposed fixed objects for periods not to exceed fourteen (14) days. No separate payment will be made for truck mounted attenuators, attenuators, or other methods unless provided for in the contract.

When the roadway is open to traffic, guardrail panels shall be lapped to comply with the directional flow of traffic. Should the staging of the work require that the lap of the guardrail be changed, this work shall be completed before the roadway is opened to traffic. The work to change the lap of any guardrail shall be included in Traffic Control-Lump Sum.

The laps on anchors shall be in accordance with the manufacture’s recommendations and installation instructions. As a result, a trailing anchor may be lapped opposing the flow of traffic.

Failure to comply with the above time and quantity restrictions shall be considered as non-compliance under Subsection 150.5.01.

150.2.07 Interim Signs

A. Posts

Permanent mounting height to the bottom of sign shall be seven (7) feet – eight (8) feet measured vertically from the bottom of the sign to the elevation of the near edge of the pavement or from the walkway. Posts for all interim signs should be square tubular post meeting the requirements of Section 911, QPL-35, and Construction Detail T-3A (Type 7, 8, and 9 Square Tube Post Installation Detail). Ground mounted sign(s) greater than 48” wide shall be mounted on two posts. For barrier mounted sign, single post mount is allowed. The post(s) shall not extend beyond the top of the sign(s). The sign(s) shall be substantially plumbed and leveled.

Galvanized U-Channel post can be used in lieu of square tubular posts until December 31, 2019. The U-Channel post shall meet the requirements of Section 911. Ground mounted sign(s) greater than nine (9) square feet shall be mounted on two posts. All posts replaced or installed on or after January 01, 2020 shall be square tubular posts.

Unprotected interim posts shall be spliced as shown in Detail 150-A, unless full length unspliced posts are used. Unprotected post splices will not be permitted any higher than four inches above the ground line to lessen the possibility of affecting the undercarriage of a vehicle. Installation of posts may require establishment of openings in existing pavements, islands, shoulders etc.
B. Sign Blanks and Panels

All TTC sign blanks and panels should conform to Section 912 of the Specifications. Alternative sign blank materials (composites, polycarbonates, fiberglass reinforced plastics, recycled plastics, etc.) shall have a letter of approval from the Office of Materials and Testing for use as interim construction signs before these materials are allowed to be incorporated into the work, unless these rigid sign blanks are currently approved as a crashworthy sign blank material under QPL-34. Unless specified elsewhere in the contract, specifications, plans, and/or directed by the Engineer, sign sizes are according to the following:

1. All construction signs sizes should follow the dimensions provide in MUTCD Table 6F-1 “Temporary traffic Control Zone Sign and Plaque Sizes” under the column for “Freeway or Expressway”.

2. For all other signs used just for staging, the sign sizes should follow the dimensions provide in MUTCD Table 2B-1 “Regulatory Sign and Plaque Sizes” for the largest size.

3. Permanent signs used for staging shall be according to plans.

Plywood blanks or panels will not be permitted.

The use of flexible signs will not be permitted.

For utility work not included in the contract, the utility contractor may use flexible signs within the project limits.

150.2.08 Pavement Markings

All temporary traffic striping shall conform to the requirements of Section 652, Section 653, Section 657, Section 658, Section 659, and QPL-46.
A. **All Traffic Striping for 45 Days or Less (≤45 Days)**

All traffic striping that will be in place for 45 days or less shall be 4 inches or greater in width.

B. **All Temporary Striping Beyond 45 days (>45 Days)**

All traffic striping applied on intermediate surfaces shall be a minimum 5 inches in width or as shown on plans. On final surfaces when temporary striping will be overlaid or eradicated, the temporary striping shall be a minimum 5 inches in width.

C. **All Temporary Traffic Striping on Final Surface**

All temporary traffic striping applied to final surfaces which will not be overlay or grinded may be 4 inches in width or as shown on the plans.

**150.2.09 Portable Changeable Message Signs**

Unless specified as a paid item in the contract, the use of a portable changeable message sign will not be required. When specified, a portable changeable message sign (PCMS) shall meet the minimum requirements of Section 632, MUTCD (6F.60) and be on QPL-82. The maximum amount of messages allowed to be flashed on one PCMS is two phases (flashes). The language and the timing of the messages shall comply with the MUTCD and Section 632. When used as an advanced device, the PCMS should typically be placed ahead of the construction activities. If the PCMS is used as a substitute for another device, then the requirements for the other device apply.

Any PCMS in use, which is not protected by positive barrier protection, shall be delineated by a minimum of three drums that meet the requirement of Subsection 150.2.04.B. The drum spacing shall not exceed a maximum of ten (10’) feet as shown in Detail 150-B. When the PCMS is within twenty (20’) feet of the opposing traffic flow, the trailing end of the PCMS shall be delineated with a minimum of three drums spaced in the same manner as the approach side of the PCMS.
When not in use, the PCMS shall be removed from the roadway, unless protected by positive barrier protection. If the PCMS is protected by positive barrier protection, the sign panel shall be turned away from traffic when not in use.

150.2.10 Portable Impact Attenuators

This work consists of the furnishing (including spare parts), installation, maintenance, relocation, reuse as required, and removal of Portable Impact Attenuator Units/Arrays.

Portable Impact Attenuator Unit/Arrays installation shall conform to the requirements of Section 648, Manufacturer’s recommendations and Georgia Standard 4960 “Temporary Barrier (End Treatment Options)” and shall be installed at locations designated by the Engineer, and/or as shown on the plans. When gating attenuators are used, the contractor shall maintain the appropriate recovery area in accordance with the manufacturers’ recommendations.

Generic sand/water loaded modules are prohibited. Manufacturers’ sand/water loaded modules with specific arrays that have been NCHRP 350/MASH approved can be used in appropriate locations.

The test level of protection provided shall equal or exceed the speed limit. Test level 3 shall be used for forty-five (45) mph or above.

150.2.11 Portable Temporary Traffic Control Signals

The use of Portable Temporary Traffic Control Signals shall meet the following minimum requirements:

Only two-lane, two-way roadways will be allowed to utilize Portable Temporary Traffic Control Signals.

All portable traffic control signals shall meet the physical display and operational requirements of conventional traffic signals described in the MUTCD.
Each signal face shall have at least three lenses. The lenses shall be red, yellow, or green in color and shall give a circular type of indication. All lenses shall be twelve (12") inches nominal in diameter.

A minimum of two signal faces shall face each direction of traffic. A minimum of one signal head shall be suspended over the roadway travel lane in a manner that will allow the bottom of the signal head housing to be not less than seventeen (17’) feet above and not more than nineteen (19’) feet above the pavement grade at the center of the travel lane. The second signal head may be located over the travel lane with the same height requirements or the second signal head may be located on the shoulder. When the signal head is located on the shoulder, the bottom of the signal head housing shall be at least eight (8’) feet but not more than (15’) feet above the pavement grade at the center of highway.

Advance warning signage and appropriate pavement markings shall be installed as part of the temporary signal operation.

The signals shall be operated in a manner consistent with traffic requirements. The signals may be operated in timed-mode or in a vehicle-actuated mode. The signals shall be interconnected in a manner to ensure that conflicting movements cannot occur. To ensure that the appropriate operating pattern, including timing is displayed to the traveling public, regular inspections, including the use of accurate timing devices shall be made by the Worksite Traffic Control Supervisor. If, at any time, any part of the system fails to operate within these requirements then the use of the signal shall be suspended and the appropriate flagging operation shall begin immediately.

The Worksite Traffic Control Supervisor (WTCS) shall continuously monitor the portable traffic control signal to insure compliance with the requirements for maintenance under the MUTCD. The signal shall be maintained in a manner consistent with the intention of the MUTCD, with emphasis on cleaning of the optical system. Timing changes shall be made only by the WTCS. The WTCS shall keep a written record of all timing changes.

The portable temporary signal shall have two power sources and shall be capable of running for seven calendar days continuously.

The Contractor shall have an alternate temporary traffic control plan in the event of failure of the signal.

**150.2.12 Raised Pavement Markers**

Raised pavement markers (RPMs) shall meet the requirements of Section 654 and QPL-76.

**150.2.13 Rumble Strips**

Rumble strips incorporated into the work shall meet the requirements of Section 429 and the MUTCD. Existing rumble strips that are positioned in the traveled way to warn traffic of a stop condition shall be reinstalled prior to opening to traffic. Based on the following requirements:

Intermediate surfaces that will be in use for more than forty-five (45) calendar days shall have rumble strips reinstalled on the traveled way in the area of a stop condition. Non-refundable deductions in accordance with Subsection 150.5.01 will be assessed for any intermediate surface in place for greater than 45 days without rumble strips.

Rumble strips shall be installed on the final surface within fourteen (14) calendar days of the placement of the final surface in the area of the stop condition. Failure to install within fourteen (14) calendar days will result in assessment of non-refundable deductions in accordance with Subsection 150.5.01.

Prior to the removal of any rumble strips located in the travel lane, stop ahead (W3-1) warning signs shall be double indicated ahead of the stop condition. These warning signs shall be a minimum of 48 inches by 48 inches. These warning signs shall remain in place until the rumble strips have been reinstalled on the traveled way. Any existing warning signs for the stop ahead condition shall be removed or covered while the 48” X 48” (W3-1) signs are in place. When the rumble strips have been reinstalled, these warning signs should be promptly removed and any existing signage placed back in service.

**150.2.14 Temporary Barriers**

A. **Design:**

Temporary barriers shall meet the requirements of Sections 620. The lengths of advancement should be in accordance with Georgia Standard 4000W “Lengths of Advancement, Clear Zone Distances, and Fill Height Embankment”. The
approach end of the taper should have 10:1 or flatter ground slope. Temporary barriers shall not be used as a channelization
device. Their use is in accordance with MUTCD (6F.85).

B. Application:

Temporary barriers shall be placed as required by the plans, standards, and as directed by the Engineer. When Temporary
barrier is located twenty feet (≤ 20’) or less from a travel lane, yellow reflectors shall be fixed to the top of the barrier at
intervals not greater than forty feet (≤ 40’) in the longitudinal section and twenty feet (20’) in the taper section and shall
be mounted approximately two inches (2”) above the barrier. If both lanes of a two-lane two-way roadway are within
twenty feet (≤ 20’) or less of the barrier then the reflectors shall be installed for both directions of traffic.

The reflectors shall be hundred (100) square inches (ASTM Type VII or VIII/Type XI) reflective sheeting mounted on
flat-sheet blanks. The reflectors shall be mounted approximately two inches above the top of the barrier. The reflectors
shall be attached to the barrier with adhesive or by a drilled-in anchor type device. The reflectors shall not be attached to
a post or board that is placed between the gaps in the barrier sections.

Approach end of Temporary barrier shall be protected according to Georgia Standard 4960 “Temporary Barrier (End
Treatment Options)” or by a portable impact attenuator.

On interstates or other controlled access highways where lane shifts or crossovers cause opposing traffic to be separated
by less than forty feet (<40’), portable barrier should be used as a separator.

150.2.15 Temporary Guardrail Anchorage- Type 12

This work consists of the furnishing, installation, maintenance and removal of Temporary Guardrail Anchorage- Type 12 used
for Portable Barrier or temporary guardrail end treatment. Materials used in the Temporary Guardrail Anchorage- Type 12
shall meet the requirements of Section 641 of the Specifications and current Georgia Standards and may be new or used.
Materials salvaged from the Project, which meet the requirements of Standards, may be utilized if available. The use of any
salvaged materials will require prior approval of the Engineer.

Installation of the Temporary Guardrail Anchorage- Type 12 shall conform to the requirements of the Plans, current Georgia
Standards and Section 641 of the Specifications. Installation shall also include sufficient additional guardrail and appurtenances
to effect the transition and connection to Temporary Concrete Barrier as required by the details in Georgia Standard 4960
“Temporary Barrier (End Treatment Options)”.

150.2.16 Temporary Traffic Signals

Temporary traffic signals shall meet the requirements of Section 647 and the MUTCD.

150.3 Construction Requirements

150.3.01 General

A. Implementation Requirements

No work shall be started on any project phase until the appropriate traffic control devices have been placed in accordance
with the Project requirements. Changes to traffic flow shall not commence unless all labor, materials, and equipment
necessary to make the changes are available on the Project.

When any shift or change is made to the location of traffic or to the flow patterns of traffic, including pedestrian traffic,
the permanent safety features shall be installed and fully operational before making the change. If staging or site conditions
prevent the installation of permanent features then the equivalent interim devices shall be utilized. This work shall also
include any necessary removal and reinstallation of guardrail panels to achieve the required panel lap to accommodate the
appropriate shift and traffic flow including the final traffic flow configuration. The cost of performing this work shall be
included in Traffic Control-Lump Sum.
Any section of the work that is on a new location shall have all permanent safety features installed and fully operational before the work is opened to traffic. Safety features shall include, but are not limited to the following items:

1) Guardrails including anchors and delineation with properly lapped panels
2) Impact attenuators
3) Traffic signals
4) Warning devices
5) Pavement markings including words, symbols, stop bars, and crosswalks
6) Roadway signs including regulatory, warning, and guide

Outdoor lighting shall be considered as a safety feature for welcome centers, rest areas, and weigh station projects. For typical roadway type projects, new street lighting is not considered a safety feature, unless specifically noted in the plans or in the special conditions.

B. Maintenance of Traffic Control Devices

Traffic control devices shall be in acceptable condition when first erected on the project and shall be maintained in accordance with Section 104, throughout the construction period. All unacceptable traffic control devices shall be replaced within twenty-four (24) hours. When not in use, all traffic control devices shall be removed, placed or covered so as not to be visible to traffic. All construction warning signs shall be removed within seven (7) calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten (10) calendar days after completion of the Work, the Department shall have the right to remove such devices, claim possession thereof, and deduct the cost of such removal from any monies due, or which may become due, the Contractor.

C. Traffic Interruption Restrictions

The Department reserves the right to restrict construction operations when, in the opinion of the Engineer, the continuance of the Work would seriously hinder traffic flow, be needlessly disruptive or unnecessarily inconvenience the traveling public. The Contractor shall suspend and/or reschedule any work when the Engineer deems that conditions are unfavorable for continuing the Work.

Advanced notification requirements to the Contractor to suspend work will be according to the events and the time restrictions outlined below:

Incident management - No advanced notice required

Threatening/Inclement weather – twenty-four (24) hours

Holiday, sporting events, unfavorable conditions - Three (3) calendar days

If the work is suspended, the Contractor may submit a request for additional contract time as allowed under Section 108. The Department will review the request and may grant additional contract time as justified by the impact to the Contractor’s schedule. Compensation for loss of productivity, rescheduling of crews, rental of equipment or delays to the Contractor’s schedule will not be considered for payment. Additional contract time will be the only consideration granted to the Contractor.

D. Work Zone Restrictions

1. Interstate

The Contractor should not simultaneously perform work on both the inside shoulder and outside shoulder on either direction of traffic flow when the Work is within 12 feet of the travel-way. Shoulders can be alternated if areas are separated by at least one-half mile of distance.

2. Non-Interstate Divided Highways
The Contractor should not simultaneously perform work on both the inside shoulder and outside shoulder on either direction of traffic flow when the Work is within 12 feet of the travel-way. Shoulders can be alternated if areas are separated by at least one-half mile distance in rural areas or at least 500 feet of distance in urban areas.

3. Non-Divided Highways

   a. The Contractor should not simultaneously perform work on opposite sides of the roadway when the work is within 12 feet of the travel-way. Shoulders can be alternated if areas are separated by at least one-half mile distance in rural areas or at least 500 feet of distance in urban areas.

   b. On two-lane projects where full width sections of the existing subgrade, base or surfacing are to be removed, and new base, subgrade, or surfacing are to be constructed, the Contractor should maintain one-lane traffic through the construction area by removing and replacing the undesirable material for half the width of the existing roadway at a time. Replacement should be made such that paving is completed to the level of the existing pavement in the adjacent lane by the end of the workday or before opening all the roadway to traffic.

E. Work Zone Geometric Restrictions

   There should be no reduction in the total number of available traffic lanes including turning lanes that existed prior to construction, except as specifically allowed by the Contract and as approved by the Engineer.

   Travel lane Clearances: All portions of the work should maintain the following minimum requirements:

   Horizontal: The combined dimensions of the paved shoulder and the roadway surface remaining outside the Work Zone should be no less than sixteen feet (≥ 16') in width at any location.

   Vertical: The overhead clearance should not be reduced to less than fifteen feet (≥ 15’) at any location.

   The restrictions above apply to all shifts, lane closures, on-site detours and off-site detours whether shown in the contract or proposed by the Contractor. It shall be the responsibility of the Contractor to verify that these minimum requirements have been met before proceeding with any phase of the Work. Two-lane, two-way roadways may have temporary horizontal restrictions of less than sixteen feet (≥ 16’) during flagging operations. The minimum horizontal clearance should be restored before the flagging operation is removed.

F. Clear Zone

   At the end of the workday, all equipment, materials, and TTC devices not in use should be moved out of the clear zone or behind positive protection. The clear zone is defined by Georgia Standard 4000W “Lengths of Advancement, Clear Zone Distances, Fill Height Embankment”. For urban roadway with curb, the minimum set back is six (6’) feet from the curb face. If stored behind positive protection, proper lengths of advancement should be maintained. If stored behind guardrail, the items shall be a minimum five feet (≥ 5’) from the face of the guardrail and not in the recovery zone of the anchor.

   The Worksite Traffic Control Supervisor (WTCS) shall monitor the work to ensure that all the rocks, boulders, construction debris, stockpiled materials, equipment, tools and other potential hazards are kept clear of the travel lane.

G. Milled Surface Restrictions

   Unless modified by the special conditions, a milled surface on any asphaltic concrete surface shall not be allowed to remain open to traffic for a period of time that exceeds thirty (> 30) calendar days.

H. Construction Vehicles

   The Contractor’s vehicles shall travel in the direction of normal roadway traffic and shall not reverse direction except at intersections, interchanges, or approved temporary crossings. The Contractor may submit a plan requesting that construction traffic be allowed to travel in the opposite direction of normal traffic when it would be desirable to modify traffic patterns to accommodate specific construction activities.
Prior approval of the Engineer shall be obtained before any construction traffic is allowed to travel in a reverse direction. If the Contractor’s submittal is approved, the construction traffic shall be separated from normal traffic by appropriate traffic control devices.

The parking of Contractor’s and/or workers’ personal vehicles within the work area or adjacent to traffic is prohibited. It shall be the responsibility of the Worksite Traffic Control Supervisor to ensure that any vehicle present at the worksite is necessary for the completion of the work.

I. Environmental Impacts

The Contractor shall ensure that dust, mud, and other debris from construction activities do not interfere with normal traffic operations or adjacent properties.

J. Existing Street Lights

Existing street lighting shall remain lighted as long as practical and until removal is approved by the Engineer.

K. Nighttime Work Lighting

Adequate temporary lighting shall be provided at all nighttime work sites where workers will be immediately adjacent to traffic.

L. Removal/Reinstallation of Miscellaneous Items

In the prosecution of the Work, if it becomes necessary to remove any existing signs, markers, guardrail, etc. not covered by specific pay item, they shall be removed, stored and reinstalled, when directed by the Engineer, to line and grade, and in the same condition as when removed.

150.3.02 Personnel – Worker Safety Apparel

In accordance with MUTCD (6D.03) all workers, within the right-of-way who are exposed either to traffic or to work vehicles and construction equipment within the TTC zone, shall wear high-visibility safety apparel that meets the Performance Class 2 or better.

150.3.03 Signage - General

A. Signing Requirements of the Temporary Traffic Control (TTC) Plan

When existing regulatory, warning or guide signs are required for proper traffic and pedestrian control, the Contractor shall maintain these signs in accordance with the temporary traffic control (TTC) plan. The Contractor shall review the status of all existing signs, interim signs added to the work, and permanent sign installations that are part of the work to eliminate any conflicting or non-applicable signage in the TTC Plan. The Contractor’s review of all signs in the TTC Plan shall establish compliance with the requirements of the MUTCD and Section 150. Any conflicts shall be reported to the Engineer immediately and the WTCS shall take the necessary measures to eliminate the conflict.

The Contractor shall make every effort to eliminate the use of interim signs as soon as the Work allows for the installation of permanent signs.

All existing illuminated signs shall remain lighted and be maintained by the Contractor.

Existing street name signs shall be maintained at street intersections.

B. Conflicting or Non-Applicable Signs

Any sign(s) or portions of a sign(s) that are not applicable to the TTC plan shall be covered so as not to be visible to traffic or shall be removed from the roadway when not in use. The WTCS shall review all traffic shifts and changes in the traffic patterns to ensure that all conflicting signs have been removed. The review shall confirm that the highest priority signs have been installed and that signs of lesser significance are not interfering with the visibility of the high priority signs.
High priority signs include signs for road closures, shifts, detours, lane closures and curves. Any signs, such as speed zones and speed limits, passing zones, littering fines and litter pick up, that reference activities that are not applicable due to the presence of the Work shall be removed, stored and reinstalled when the Work is completed.

Failure to promptly eliminate conflicting or non-applicable signs shall be considered as non-performance under Subsection 150.5.01.

C. Removal of Existing Signs and Supports

The Contractor shall not remove any existing signs and supports without prior approval from the Engineer. All existing signs and supports which are to be removed shall be stored and protected if this material will be required later in the work as part of the TTC plan. If the signs are not to be utilized in the work then the signs will become the property of the Contractor unless otherwise specified in the contract documents.

D. Interim Guide, Warning and Regulatory Signs

Interim guide, warning, or regulatory signs required to direct traffic and pedestrians shall be furnished, installed, reused, and maintained by the Contractor in accordance with the MUTCD, the Plans, Special Provisions, Special Conditions, or as directed by the Engineer. These signs shall remain the property of the Contractor. When the signs are used for long-term stationary operations as defined MUTCD (6G.02), the bottom of all interim signs shall be mounted seven feet (7') to eight feet (8') above the level of the pavement edge or sidewalk. The signs offset should be six feet (6') to twelve feet (12') from the pavement edge or two feet (≥ 2') minimum for sidewalks according to MUTCD (6F-1). Special Conditions under Subsection 150.6 may modify this requirement.

Portable signs may be used when the duration of the work is less than three (3) days or as allowed by the special conditions in Subsection 150.6. Portable signs shall be used for all punch list work. Portable interim signs shall be mounted a minimum of one foot (≤ 1') above the level of the pavement edge for directional traffic of two (2) lanes or less and at seven feet (7') for directional traffic of three (3) or more lanes according to MUTCD (6F-2). Signs shall be mounted at the height recommended by the manufacturer’s crashworthy testing requirements.

All sign blanks shall be rigid whether the sign is mounted as a portable sign, on a Type III barricade or as a permanent mount height sign. Utilities and their subcontractors working in the project limits, and not included in the project contract, may use non-rigid signs.

E. Existing Special Guide Signs

Existing special guide signs on the Project shall be maintained until conditions require a change in location or legend content. When change is required, existing signs shall be modified and continued in use if the required modification can be made within existing sign borders using design requirements (legend, letter size, spacing, border, etc.) equal to that of the existing signs, or of Subsection 150.3.E.2. Differing legend designs shall not be mixed in the same sign.

1. Special Guide Signs

Special guide signs are those expressway or freeway guide signs that are designed with message content (legend) that applies to a particular roadway location. When an existing special guide sign is in conflict with work to be performed, the Contractor shall remove the conflicting sign and reset it in a new, non-conflicting location which has been approved by the Engineer.

2. Interim Special Guide Signs

When it is not possible to utilize existing signs, either in place or relocated, the Contractor shall furnish, erect, maintain, modify, relocate, and remove new interim special guide signs in accordance with the Plans or as directed by the Engineer. Interim special guide signs that may be required in addition to, or a replacement for, existing expressway and freeway (interstate) signs shall be designed and fabricated in compliance with the minimum requirements for guide signing contained in Part 2E “Guide Signs – Freeway and Expressway” of the MUTCD. All interstate shields on these signs shall be 48 inches and 60 inches for two-numeral and three-numeral routes, respectively.

The road name of the exit or route shield shall be placed on the exit gore sign.
3. Interim Overhead Guide Sign Structures

Interim overhead special guide sign structures are not required to be lighted unless specifically required by the Plans. If lighting is required, the sign shall be lighted as soon as erected and shall remain lighted, during the hours of darkness, until the interim sign is no longer required. The Contractor shall notify the Power Company at least thirty (30) days prior to desire connection to the power source.

4. Permanent Special Guide Signs

The installation of new permanent special guide signs and the permanent modification or resetting of existing special guide signs, when included in the contract, shall be accomplished as soon as practical to minimize the use of interim special guide signs. If lighting is required by the Plans, all new permanent overhead special guide signs shall be lighted as soon as erected.

F. Stop Sign Regulated Intersections

For intersections that utilize stop sign(s) to control the flow of traffic and to restrict the movement of vehicles, the stop sign(s) shall be maintained for the duration of the work or until such time that the stop condition is eliminated or until an interim or permanent traffic signal can be installed to provide proper traffic control. The traffic signal shall be installed and properly functioning before the removal of the existing stop sign(s) is permitted. If the existing intersection is enhanced traffic control features, such as stop lines, double indicated stop signs, oversized signs, advanced warning stop ahead signs, rumble strips on the approaches or flashing beacons located overhead or on the shoulders then these features shall be maintained for the duration of the project or until the permanent traffic control plan has been implemented.

Whenever the staging of the work requires that the traveled way be relocated or realigned the Contractor shall reinstall all enhanced traffic control features noted above on the newly constructed sections of the work. The cost of relocating the stop lines, stop signs, advanced warning signs, the rumble strips and the flashing beacons shall be included in the price bid for Traffic Control - Lump Sum unless individual pay items are included in the contract for rumble strips and/or flashing beacons. When pay items are included in the contract for rumble strips or flashing beacons then these items will be paid per each.

When staging requires the relocation or realignment of an existing stop condition, it may be necessary to consider the addition of enhanced traffic control features even though none existed at the original location. Horizontal and vertical alignment changes at a new location may have decreased or restricted sight distance or the stop condition may occur sooner than in the previous alignment. If these conditions occur, then the Engineer and/or the WTCS should consider additional measures to enhance the motorist’s awareness of the changes even though the staging plans may not address enhanced features. Stop signs should be a minimum of 36 inches for interim situations. The use of 48 inch stop signs may be warranted under project specific conditions. Flags may be used on interim/permanent stop signs that are mounted at seven (7’) feet in height for a short duration in order to direct additional attention to a new or relocated stop sign(s). Flags should not be used for durations exceeding two weeks unless unusual or site specify conditions warrant a longer period of time. The use of Type “A” flashing red light(s) attached to the stop sign(s) may be appropriate during the same period that the flags are in use to increase attention.

The use of rumble strips and/or portable changeable message signs may be considered. The use of new rumble strips, where none previously existed, shall have the prior approval of District Traffic Operations before being included as part of the temporary traffic control plan. The message(s) displayed on any PCMS shall have the prior approval of the Engineer and the message(s) shall be included as part of the TTC plan for the interim staging.

The placement of any additional interim ground mounted signs and posts or stop lines shall be considered as incidental to the price bid for Traffic Control - Lump Sum. The installation of rumble strips, flashing beacons or the use of Portable Changeable Message Signs (PCMS) shall be considered as Extra Work unless pay items are included in the contract.

G. Low Shoulder Signage

1. Low Shoulder for Construction/Reconstruction/Resurfacing Projects
“Low Shoulder” (W8-9) signs shall be erected when a difference in elevation less than four (< 4’) feet from the traveled way, exceeds one inch (> 1”) but does not exceed three inches (≤3”) between the travel lane and any type of shoulder.

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The “Low” signs shall remain in place until the difference in elevation is eliminated and the shoulder has been dressed and permanently grassed for a minimum of thirty (30) calendar days. These signs shall be furnished, installed, maintained and removed by the Contractor as part of Traffic Control-Lump Sum. These signs shall be fluorescent orange with black borders.

2. Shoulder Drop-Off for Construction/Reconstruction/Resurfacing Project

“Shoulder Drop-Off” (W8-17) signs shall be used when a difference in elevation, less than four feet (< 4’) from the traveled way, exceeds three inches (> 3”) and is not protected by positive barrier protection. These warning signs shall be placed in advance of the drop-off.

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The “Shoulder Drop-Off” signs shall remain in place until the difference in elevation is eliminated and the shoulder has been dressed and permanently grassed for a minimum of thirty (30) calendar days. These signs shall be furnished, installed, maintained, and removed by the Contractor as part of Traffic Control-Lump Sum. These signs shall be black borders on fluorescent orange background.

H. Bump Signage

A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation of three quarters (≥ 3/4”) of an inch or greater in depth with no horizontal taper to ramp the traffic from one elevation to the other. This condition typically occurs at approach slabs during pavement milling operations and at transverse joints in asphaltic pavement lifts. Other conditions include utility and storm drainage repairs that require concrete placement for patching and/or steel plating.

The W8-1 sign shall be placed sufficiently in advance to warn the motorist of the condition.

I. Sign Visibility

All existing, interim and new permanent signs shall be installed so as to be completely visible and legible for an advance distance in compliance with the MUTCD. Any clearing required for maintaining the line of sight to existing, interim or permanent signs shall be done as part of the requirements of the TTC plan. The clearing shall include any advance warning signs, both interim and permanent, that are installed as a part of the work including advance warning signs that are installed outside the limits of the project. Limbs, brush, construction equipment and materials shall be kept clear of the driver’s line of sight to all signs that are part of the TTC plan.

150.3.04 Advance Warning Signs

A. Project Signs - All Type of Highways

Advance warning signs shall be placed ahead of the work area in accordance with Part 6 of the MUTCD and shall include a series of at least three advance road work (W20-1) signs placed at the termini of the project. The series shall have the legend ROAD WORK (1500 FEET, 1000 FEET, AND 500 FEET).

At grade intersecting roadways and on-ramps shall be signed with a minimum of one ROAD WORK AHEAD sign.

When work terminates at a “T” intersection, a minimum of one “ROAD WORK AHEAD” sign shall be placed in advance of the intersection and one “END ROAD WORK” sign shall be placed at the termination end of the intersection. Field conditions may require the use of additional warning signage.

1. State Routes

Advanced Warning Signs on State Routes shall be a minimum dimension of forty-eight inches by forty-eight inches (48” x 48”). When a State Route intersects a project which consists of adding travel lanes, reconstructing an existing roadway or new location work, the State Route approaches shall have a minimum of three (W20-1) advanced warning
signs (1500 ft., 1000 ft., 500 ft.). The termination end of an intersecting State Route shall have END ROAD WORK signage.

The W20-1 signs shall be placed at the termini of the project or sufficiently in advance of the termini to allow for lane shifts, lane closures and other activities which may also require advanced warning signs. The advanced warning signs for the project should not overlap with the advanced warning signs for lane shifts, lane closures, etc.

The length of a work zone should be held to the minimum length required to accomplish the work. If a project has multiple individual worksites within the overall limits of the project, each site should be signed individually if the advance warning signs for each site can be installed without overlapping an adjacent worksite. As soon as the work is completed at any individual site, the warning signs shall be removed from that site. Clean-up work and punch list work shall be performed with portable signage.

Project mileage indicated on the G20-1 sign shall be the actual project mileage rounded up to the nearest whole mile. Projects less than two (< 2) miles in length or individual worksites that are part of a multiple worksite project may delete this sign. The G20-1 sign shall be forty-eight inches by twenty-four inches (48” x 24”) and the G20-2 sign shall be forty-eight inches by twenty-four inches (48” x 24”).

2. Interstate, Limited Access and Multilane Divided Highways

In addition to the W20-1 signs required at 500 ft., 1000 ft. and 1500 ft., multi-lane divided highways shall also have additional advanced warning signs installed with the legend “ROAD WORK (2 MILES, 1 MILE and 1/2 MILE).” All construction warning signs on divided highways shall be double indicated (i.e., on the left and right sides of the roadway.) If the use of the half (½) mile, one (1) mile and two (2) mile advanced warning signs cause an overlap with other work or do not benefit field conditions then the Engineer may review the use of these signs and eliminate their installation. When the posted speed limit is fifty (≤ 50) mph or less, the one-half (½) mile, one (1) mile and two (2) mile signs should be eliminated especially in urban areas.

The W20-1 advance warning signs for ROAD WORK 500 FEET; 1000 FEET; and 1500 FEET shall be temporarily covered when work involving the advanced warning signs for lane shifts and lane closures overlap these signs. The ROAD WORK ½ MILE, ROAD WORK 1 MILE, and ROAD WORK 2 MILES shall be in place when the 500, 1000 and 1500 feet signs are temporarily covered.

When the temporary traffic control zone already has advanced warning (W20-1) signs installed the W20-1 signs required for lane closures under Standard 9106 should be eliminated.

3. Ramp Work on Limited Access Highways

The work zone shall not be signed for the entire length of the mainline of a limited access highway when only short individual worksites, interchange or ramp work is being performed.

When work is restricted to ramp reconstruction or widening activities, the advance warning signs on the mainline section of the limited access highway shall be limited to the use of portable advance warning signs. These portable advance warning signs shall only be utilized when work activity is within the gore point of the ramp and the mainline traveled way or work is active in the acceleration/deceleration lane adjacent to the mainline traveled way. Portable advance warning signs (W20-1: 1500 ft. /1000 ft. /500 ft.) shall be installed on the traveled way of the limited access highway when the above conditions are present. The advance warning signs shall be installed only in one direction where work is active. All portable signs shall be double indicated. When work is not active, the ramp work shall be advanced warned by the use of a single forty-eight inches by forty-eight inches (48” x 48”) “ROAD WORK AHEAD” (W20-1) with an “ON RAMP” plaque (W13-4p) sign along the right shoulder of the mainline traveled way prior to the beginning of the taper for the deceleration lane. Differences in elevation shall be in compliance with the requirements of Subsection 150.3.11 prior to the removal of the portable (W20-1) advanced warning signs from the mainline.

B. Highway Work Zone

In accordance with Georgia Code, O.C.G.A. § 40-6-188, all sections or segments of the roadway under construction or reconstruction shall be signed as a Highway Work Zone except non-state highway two-lane two-way resurfacing projects.
Two conditions can be applied to a Highway Work Zone. Condition 1 is when no reduction in the existing speed limit is required. Condition 2 is when worksite conditions require a reduction of the speed limit through the designated Work Zone. Properly marking a Highway Work Zone shall include the following minimum requirements:

1. No Reduction in the Existing Posted Speed Limit in Highway Work Zone
   a. Signage shall be posted at the beginning point of the Highway Work Zone warning the traveling public that increased penalties for speeding violations are in effect. The beginning point of Highway Work Zone is at the project limits, start of work zone, or at the start of the first taper. The HWZ-2 sign shall be placed a minimum of 600 feet in advance of the Highway Work Zone and shall not be placed more than 1000 feet in advance of the Work Zone. If no speed reduction is required, it is recommended that the HWZ-2 be placed at 750 feet from the work area between the ROAD WORK 500 FT. and the ROAD WORK 1000 FT. signs.

   HWZ-2 signs shall be placed at intervals not to exceed one mile for the length of the project. HWZ-2 signs should be placed on the mainline after all major intersections except State Routes. State Routes shall be signed as per the requirements for intersecting roadways below.
   
   b. The existing speed limit shall be posted at the beginning of the Work Zone. Existing Speed Limit signs (R2-1) shall be maintained.
   
   c. Intersecting state routes shall be signed in advance of each intersection with the Work Zone with a HWZ-2 sign to warn motorists that increased fines are in effect. All other intersecting roadways that enter into a designated Highway Work Zone may be signed in advance of each intersection with the Work Zone. When construction equipment and personnel are present in the intersection on the mainline of a multi-lane roadway, the intersecting side roads shall be signed in advance with HWZ-2 signs. As soon as the work operation clears the intersection, the signage may be removed.
   
   d. Sign HWZ-3 shall be posted at the end of the Highway Work Zone indicating the end of the zone and indicating that increased penalties for speeding violations are no longer in effect.
   
   e. When a designated Highway Work Zone is no longer necessary, all signs shall be removed immediately.

2. Reducing the Speed Limit in a Highway Work Zone
   Highway Work Zone signs shall be posted as required in Condition 1 above in accordance with Detail 150-C.

   A “Reduce Speed Limit Ahead” (W3-5) sign shall be posted 600 feet prior to the reduced speed limit.

   Then a “Speed Limit” signage (R2-1) for the reduced speed limit shall be erected at the beginning of the work zone. Additional signs shall be placed at whichever is least:
   
   a. on non-interstate roads after every junction with a numbered (state or U.S.) route.
   
   b. on interstate entrance ramp 1,500 feet from the end of the entrance taper. Detail 150-D
   
   c. on non-interstate and interstate a maximum spacing of no greater than one (1) mile apart.

   On multi-lane divided highways, the speed limit signs shall be double indicated when the reduced speed is in use.

   Additional signs may be necessary to adjust for actual field conditions.

   For limited access (interstate) highways and controlled access multi-lane divided highways, the posted speed limit shall be reduced as required below.

   When any one or more of the following conditions exist and the existing speed limit is sixty-five (65) mph or seventy (70) mph, the speed limit shall be reduced by ten (10) mph. If the existing speed limit is sixty (60) mph, the speed limit should be reduced by five (5) mph. If the existing speed limit is fifty-five ($\leq$ 55) mph or less, the Contractor can
only reduce the speed limit with the prior approval of the Engineer. The reduction in the speed limit shall be no greater than ten (10) mph:

a) Lane closure(s) of any type and any duration.
b) The difference in elevation exceeds two inches (> 2”) adjacent to a travel lane as shown in Subsection 150.3.11, Detail 150-E, Detail 150-F.
c) Any areas where equipment or workers are within ten feet (10’) of a travel lane.
d) Temporary portable concrete barriers located less than two feet (2’) from the traveled way.
e) As directed by the Engineer for conditions distinctive to this project.

When the above conditions are not present, the speed limit shall be immediately returned to the existing posted speed limit. A speed reduction shall not be put in place for the entire length of the project unless conditions warranting the speed reduction are present for the entire project length. All existing speed limit signs within the temporary speed reduction zone shall be covered or removed while the temporary reduction in the speed limit is in effect. All signs shall be erected to comply with the minimum requirements of the MUTCD.

At a minimum, the following records shall be kept by the WTCS:

a) Identify the need for the reduction.
b) Record the time of the installation and removal of the temporary reduction.
c) Fully describe the location and limits of the reduced speed zone.
d) Document any accident that occurs during the time of the reduction.

A copy of the weekly records for reduced speed zones shall be submitted to the Engineer.

When a pilot vehicle is used on a two-lane two-way roadway, the speed limit should not be reduced. For special conditions specific to the work, on two-lane two-way roadways or multi-lane highways, the contractor may reduce the posted speed limit with the prior approval of the Engineer.

3. Variable Speed Limit Zones

Projects that are within or extends into variable speed limit zones shall be posted according to condition 1 with HWZ-1, HWZ-2, and HWZ-3 signs. No additional “speed limit” signs, (R2-1), shall be posted. Any reduction or increase in speed limits will be controlled by the normal operation of the variable speed limit system.

Upon request, a maximum speed limit of fifty-five (55) mph may be set for the project limits.
WORK ZONE

SPEEDING FINES INCREASED

MINIMUM FINE $100

COLORS
TOP PANEL
LEGEND & BORDER - BLACK (NON-REFL)
BACKGROUND - FLUORESCENT ORANGE

MIDDLE & BOTTOM PANELS
LEGEND & BORDER - BLACK
BACKGROUND - WHITE

NOTES:
1. ALL HWZ-2 SIGN PANELS SHALL BE RIGID.
2. THE SIZE OF THE HWZ-2 SIGN SHALL NOT BE REDUCED FOR USE ON TWO-LANE ROADWAYS.
WORK ZONE
END
INCREASED
SPEEDING
FINES

COLORS
TOP PANEL
LEGEND & BORDER - BLACK (NON-REFL)
BACKGROUND - FLUORESCENT ORANGE

BOTTOM PANEL
LEGEND & BORDER - BLACK (NON-REFL)
BACKGROUND - WHITE

NOTES:
1. ALL HWZ-3 SIGN PANELS SHALL BE RIGID.
2. THE SIZE OF THE HWZ-3 SIGN SHALL NOT BE REDUCED FOR USE ON TWO-LANE ROADWAYS.
Speed Limit Reduction for Highway Work Zone

Interstate and Multi Lane Divided Highway Signing Shall Be Double Indicated (Right Shoulder and Median Shoulder)

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Traffic

Work Zone

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 HWZ - 2 Sign

SPEED LIMIT

W3.5

48” X 48”

Required for speed reduction

Reduce speed limit shall be posted at the project limit, or at the start of work zone, or at the start of the first taper.

Detail 150 - C

Original Speed Limit

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At Entrance Ramp for Interstates

SPEED LIMIT

R2 - 1

48” X 48”

1,500 FT

Detail 150 - D

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### C. Installation/Removal of Work Area Signage

No payment will be made for Traffic Control-Lump Sum until the Work has actually started on the project. The installation of traffic control signage does not qualify as the start of work. Advanced warning signs shall not be installed until the actual beginning of work activities. Any permanent mount height signs installed as the work is preparing to start shall be covered until all signs are installed unless all signs are installed within seven (≤ 7) calendar days after beginning installation.

All temporary traffic control devices shall be removed as soon as practical when these devices are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate, shall be removed or covered.

All construction warning signs shall be removed within seven (≤ 7) calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten (> 10) calendar days after completion of the Work, the Department shall have the right to remove such devices, claim possession thereof, and deduct the cost of such removal from any monies due, or which may become due, the Contractor.

PUNCH LIST WORK: Portable signs shall be utilized to accomplish the completion of all punch list items. The portable signs shall be removed daily. All permanent mount height signs shall be removed prior to the beginning of the punch list work except “Low/Soft Shoulder” signs and any signs that have the prior written approval of the Engineer to remain in place while the punch list work is in progress.

Failure to promptly remove the construction warning signs within the seven (7) calendar days after the completion of the Work or failure to remove or cover signs when work is suspended for short periods of time shall be considered as non-performance under Subsection 150.5.01.

### 150.3.05 Shoulder/Lane Closures

#### A. Approval/Restrictions

All shoulder closures and lane closures of any type or duration shall have the prior approval of the Engineer.

1. **Closure Length**

   The length of a shoulder closure and a lane closure shall not exceed two (2) miles in length excluding the length of the tapers unless the prior approval of the Engineer has been obtained. The Engineer may extend the length of the closure based upon field conditions; however, the length of a work zone should be held to the minimum length required to accomplish the Work. Shoulder closure and Lane Closures shall not be spaced closer than one mile. The advanced warning signs for the project should not overlap with the advanced warning signs for lane shifts, lane closures, etc.

2. **Duration**

   The first (7) calendar days in an Urban area and the first three (3) calendar days in a Rural area of any lane closure shall be signed and marked as per Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway” or Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway”. However, lane closures that exist for a duration longer than three (> 3) calendar days may be signed and marked as per the details in Georgia Standard 9121 “Tapers, Signs, and Markings for Passing Lanes”, provided the prior approval of the Engineer is obtained. The approved lane drop shall utilize a Portable Message Board (PCMS) and only the signs and markings shown for the termination end of the lane drop in Georgia Standard 9121. All warning signs in the lane drop sequence shall be used. Drums may be substituted for the Type I Crystal Delineators at the same spacing.

#### B. Shoulder Closures

In accordance with MUTCD 6G.07, when paved shoulders, having a width of eight feet (≥ 8’) or more are closed, at least one (1) advance warning sign shall be used. The sign(s) should read SHOULDER CLOSED (W21-5a). The signs are only posted on the side with the shoulder closure. Where the downstream end of the shoulder closure extends beyond the distance
that can be perceived by road users, a supplementary plaque bearing the message NEXT XX FEET (W16-4P) or MILES (W7-3aP) should be placed below the SHOULDER CLOSED (W21-5a) sign. These signs shall be place 500 feet prior to the shoulder closure. For multi-shoulder closures, the Shoulder Closed sign shall be repeated after two (2) miles at 500 feet prior to the next shoulder closure.

A shoulder closure will require a shoulder taper of (1/3) L (L=merging taper length). Traffic drums shall be used for the taper. Arrow boards are not required.

If positive barriers are used to closed the shoulder, the taper and drums shall be in accordance with Standard 4960, Temporary Barrier (End Treatment Options). The approach end of the barrier taper should be 10:1 or flatter slope.

C. Lane Closure

1. Advance Warning Signs

The advance Warning signs shall be in accordance with MUTCD and Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway” and Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway”.

When the temporary traffic control zone already has advanced warning (W20-1) signs installed the W20-1 signs required for lane closures under Standard 9106 and 9107 should be eliminated.

For Interstate, Limited Access and Multi-lane Divided Highways, an additional Portable Changeable Message Sign (PCMS) shall be placed one (1) mile in advance of a lane closure with a message denoting the appropriate lane closure one (1) mile ahead. No other message shall be displayed on this PCMS. The PCMS shall be placed on the outside shoulder in accordance with Detail 150-B [PCMS]. This is in addition to the other traffic control devices required by Standard 9106.

At the discretion of the Engineer, the Contractor may start placing advance warning signs a half-hour (1/2 hr.) prior to the lane closure.

2. Transition Area – Taper

Drums shall be used on all transition tapers. If traffic drums with retroreflectivity of less than type VI are used for a merge taper that exists into the night, all drums located in the taper shall have, for the length of the taper only, a six inch (6”) fluorescent orange (ASTM Type VI, VII, VIII, IX or X) reflectorized top stripe on each drum. The top six inch (6”) stripe may be temporarily attached to the drum while in use in a taper. The Engineer may allow the fluorescent orange reflectorized six inch (6”) top stripe on each drum in a merging taper to remain in place during daylight hours provided there is a lane closure(s) with a continuous operation that begins during one nighttime period and ends during another nighttime period. All drums that have the six inch (6”) top stripe permanently attached shall not be used for any other conditions.

In accordance with MUTCD (6C.08), the minimum length for a merging taper for a lane closure on the travel way shall be as shown in Table 150-1:
### TABLE 150-1

<table>
<thead>
<tr>
<th>Posted Speed Limit, MPH</th>
<th>Lane Width 9 Feet</th>
<th>Lane Width 10 Feet</th>
<th>Lane Width 11 Feet</th>
<th>Lane Width 12 Feet</th>
<th>Maximum Drum Spacing in Tapers, (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td>20</td>
</tr>
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<td>675</td>
<td>750</td>
<td>825</td>
<td>900</td>
<td>75</td>
</tr>
</tbody>
</table>

If site conditions require a longer taper, then the taper shall be lengthened to fit particular individual situations.

The length of shifting tapers should be at least one-half (1/2) L.

Multiple Lane Closures:

a. A maximum of one (1) lane at a time shall be closed with each merge taper.

b. A minimum tangent length of two (≥ 2) L shall be installed between each individual lane closure taper. The tangent length is part of the transition area. Therefore, only traffic drums can be used in the tangent.

3. Activity Area

The activity area consists of a buffer and the work space. Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway” states “Buffer zones of 300’ minimum, 500’ desirable are required for tangent sections and shall be increased for horizontal or vertical curves due to sight distance considerations.”

Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway” requires a fifty feet (50’) buffer. The buffer shall be increased for horizontal or vertical curves due to sight distance considerations.”

The channelization devices are spaced at a maximum of eighty feet (80’).

4. Termination Area

Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway” requires a 150 feet buffer and a minimum 200 feet downstream taper.

Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway” requires 150 feet downstream taper.

### D. Removal of Lane Closures

To provide the greatest possible convenience to the public in accordance with Section 107, the Contractor shall remove all signs, lane closure markings, and devices immediately when lane closure work is completed or temporarily suspended for any length of time or as directed by the Engineer. All portable signs and portable sign mounting devices shall be removed from the roadway to an area which will not allow the sign to be visible and will not allow the sign or sign mounting device to be impacted by traffic. All devices shall be stored beyond the clear zone or behind positive protection.
E. Exit and Entrance Ramps

On multi-lane highways, where traffic has been shifted to the inside lanes, the exit and entrance ramps shall have drums placed on both sides of the ramp. This requirement will apply to any situation where traffic is shifted to contra flows or inside staging lanes to facilitate reconstruction work in the vicinity of exit and entrance ramps. The temporary ramp taper length should be greater than, or equal to, the existing taper length. Interim EXIT gore signs shall be placed at the ramp divergence. The “EXIT OPEN” sign shown in Figure TA-42 of the MUTCD shall be utilized. For exit ramps, drums spacing shall be decreased to ten feet (10’) for 200 feet in advance of the temporary gore, and be decreased to ten feet (10’) for the first 100 feet of the temporary gore, and throughout the exit ramp. For on-ramps, drums should be used 200 feet prior to the ramp and end 100 feet past the merge taper. The drum spacing for the on ramp may be decreased but should not obstruct the view of the drivers i.e. for the ramp vehicles.

150.3.06 Traffic Pacing Method

A. Pacing Of Traffic

With prior approval from the Engineer, traffic may be paced allowing the Contractor up to twenty (20) minutes maximum to work in or above all lanes of traffic for the following purposes:

1. Placing bridge members or other bridge work.
2. Placing overhead sign structures.
3. Other work items requiring interruption of traffic.

The Contractor shall provide a uniformed law enforcement officer with patrol vehicle and blue flashing light for each direction of pacing. The law enforcement officer, Engineer, and flaggers at ramps shall be provided with a radio which will provide continuous contact with the Contractor.

When ready to start the work activity, the law enforcement vehicle will act as a pilot vehicle slowing the traffic, thereby providing a gap in traffic allowing the Contractor to perform the Work. Any on-ramps between the pace and the work area shall be blocked during pacing of traffic, with a flagger properly dressed and equipped with a Stop/Slow paddle. Each ramp should be opened after the law enforcement vehicle has passed.

Pilot vehicles shall travel at a safe pace speed. The Contractor shall provide a vehicle to proceed in front of the law enforcement vehicle and behind the other traffic in order to inform the Contractor’s work force when all vehicles have cleared the area.

Traffic should not be permitted to stop during pacing unless approved by the Engineer.

B. Methods of Signing For Traffic Pacing

At a point not less than 1,000 feet in advance of the beginning point of the pace, the Contractor shall place a portable changeable message sign with the message “TRAFFIC SLOWED AHEAD EXPECT SHORT DELAY”.

150.3.07 Flagging Operations

A. Flaggers

Flaggers shall be provided as required to handle traffic, as specified in the Plans or Special Provisions, and as required by the Engineer.

B. Flagger Certification

All flaggers shall meet the requirements of the MUTCD and shall have received training and a certificate upon completion of the training from one of the following organizations:

National Safety Council
American Traffic Safety Services Association (ATSSA)
On-line classes are not accepted.

Failure to provide certified flaggers as required above shall be reason for the Engineer suspending work involving the flagger(s) until the Contractor provides the certified flagger(s). Flaggers shall have proof of certification and valid identification (photo I.D.) available any time they are performing flagger duties.

C. Flagger Appearance and Equipment

Flaggers shall wear Performance Class 3 or better high-visibility clothing. Flagger stations shall be illuminated at night according to MUTCD (6F.82). They shall use a Stop/Slow paddle meeting the requirements of the MUTCD (6E.03) for controlling traffic. The Stop/Slow paddles shall have a shaft length of seven feet (≥ 7’) minimum. The Stop/Slow paddle shall be retroreflectORIZED for both day and night usage. In addition to the Stop/Slow paddle, a flagger may use a flag as an additional device to attract attention. This flag shall meet the minimum requirements of the MUTCD (6E.03). The flag shall, as a minimum, be twenty-four inches (≥ 24”) square and red or red/orange in color.

D. Flagger Warning Signs

Signs for flagger traffic control shall be placed in advance of the flagging operation, in accordance with the MUTCD and Georgia Standard 9102 “Traffic Control Detail for Lane Closure on Two-Lane Highway”. In addition, signs at regular intervals, warning of the presence of the flagger shall be placed beyond the point where traffic can reasonably be expected to stop under the most severe conditions for that day’s work.

E. Pilot Vehicle Requirements

Pilot vehicles should be required during placement of bituminous surface treatment or asphaltic concrete on two-lane roadways unless otherwise specified. Pilot vehicles shall meet the requirements of the MUTCD (6C.13).

F. Automated Flagger Assistance Devices

The Contractor may request, in writing, the use of Automated Flagger Assistance Devices (AFAD). The equipment shall meet the requirements of MUTCD (6E.04). As a part of this request, the Contractor shall also submit an alternate temporary traffic control plan in the event of a failure of the AFAD. Any alternate plan that requires the use of flaggers shall include the use of certified flaggers. The Contractor shall obtain the approval of the Engineer before the use of any AFAD will be permitted.

G. Portable Temporary Traffic Control Signals

The Contractor may request, in writing, the substitution of portable temporary traffic control signals for flaggers on two-lane two-way roadways provided the temporary signals meets the requirements of the MUTCD, Section 647, and subsection 150.2.11. As a part of this request, the Contractor shall also submit an alternate temporary traffic control plan in the event of a failure of the signals. Any alternate plan that requires the use of flaggers shall include the use of certified flaggers. The Contractor shall obtain the approval of the Engineer before the use of any portable temporary traffic control signals will be permitted.

150.3.08 Traffic Signals

A. Responsibility/Cost

If the sequence of operations, staging, or the temporary traffic control plan requires the relocation or shifting of any components of an existing traffic signal system then any work on these traffic signals will be considered as part of Traffic Control – Lump Sum.

B. Law Enforcement Officer Requirement

In accordance with Georgia law § 40-6-20, law enforcement officers shall be used to regulate and maintain traffic control at functioning signalized intersections when lane closures or traffic shifts block or restrict movements causing interference with road user flows and will not allow the activated traffic signal to guide the traffic through the signal site.
150.3.09 Mobile Operations

A mobile operation is defined by a minimum speed of three (3) mph. When pavement markings (centerlines, lane lines, and edge lines) are applied in a continuous operation by moving vehicles and equipment, the following minimum equipment and warning devices shall be required. These devices and equipment are in addition to the minimum requirements of the MUTCD.

All vehicles shall be equipped with the official slow moving vehicle symbol sign. All vehicles shall have a minimum of two (2) flashing or rotating beacons visible in all directions. All protection vehicles shall have an arrow panel mounted on the rear. All vehicles requiring an arrow panel shall have, as a minimum, a Type B panel. All vehicle mounted signs shall be mounted with the bottom of the sign a minimum height of forty-eight inches (48”) above the pavement. All sign legends shall be covered or removed from view when work is not in progress.

The lead vehicle may be a separate vehicle or the work vehicle applying the pavement markings may be used as the lead vehicle. The lead vehicle shall have an arrow panel mounted so that the panel is easily visible to oncoming (approaching) traffic. The arrow panel should operate in the caution mode.

The work vehicle(s) applying markings shall have an arrow panel mounted on the rear. The arrow panel should typically operate in the caution mode. The work vehicle placing cones shall follow directly behind the work vehicle applying the markings.

A protection vehicle shall follow the last work vehicle at all times and shall be equipped with a truck mounted attenuator that shall be certified for impacts not less than sixty-two (62) mph in accordance with MASH/NCHRP350 Test Level Three (3).

150.3.10 Pavement Markings

A. General

Full pattern pavement markings in conformance with Section 3A and 3B, except 3B.02, of the MUTCD are required on all courses before the roadway is opened to traffic, unless noted in this section. No passing zones shall be marked to conform to Subsection 150.3.10.D.1.b. During construction and maintenance activities on all highways open to traffic, both existing markings and markings applied under this Section shall be fully maintained until Final Acceptance. If the pavement markings are, or become, unsatisfactory in the judgment of the Engineer due to wear, weathering, or construction activities, they shall be restored immediately.

Markings on the final surface course, which must be removed, shall be a removable type. The Contractor will be permitted to use paint, thermoplastic, or tape on pavement which is to be overlaid as part of the project, unless otherwise directed by the Engineer. Partial (skip) reflectorization (i.e. reflectorizing only a portion of a stripe) will not be allowed.

1. Resurfacing Projects

Pavement markings shall be provided on all surfaces that are placed over existing markings. Interim and final markings shall conform in type and location to the markings that existed prior to resurfacing unless changes or additions are noted in the Contract. The replacement of parking spaces will not be required unless a specific item or note has been included in the Contract. Any work to make additions to the markings that existed prior to resurfacing is to be considered as extra work.

2. Widening And Reconstruction Projects

If the lane configuration is altered from the preconstruction layout then pavement markings will be as required by the plans or the Engineer.

3. New Location Construction Projects

Pavement marking plans will be provided.
B. Installation and Removal of Pavement Markings

1. Installation

All pavement markings, both interim and permanent, shall be applied to a clean surface. The Contractor shall furnish the layout and preline the roadway surface for the placement of pavement markings applied as part of the temporary traffic control plan. All interim marking tape and RPM’s on the final surface shall be removed prior to the placement of the final markings.

The Contractor shall sequence the work in such a manner as to allow the installation of markings in the final lane configuration at the earliest possible stage of the work.

2. Removal

Markings no longer applicable shall be removed in accordance with Section 656. The elimination of conflicting pavement markings by overpainting with unapproved paint or any type of liquid asphalt is not acceptable.

3. Intermediate Surface

Interim markings shall be removed by methods that will cause minimal damage to the pavement surface, while also ensuring that traveling public will not be confused or misdirected by any residual markings remaining on the intermediate surface. The use of approved black-out tape and black-out paint (manufactured for the sole purpose of covering existing pavement markings) may be permitted on some interim surfaces, provided the results are satisfactory to the Engineer.

4. Final Surface

No interim paint or thermoplastic markings will be permitted on any final surface unless the interim markings are in alignment with the location of the permanent markings and the interim marking will not interfere or adversely affect placement of the permanent markings. The proposed method of removal for layout errors that require markings to be removed from the final surface shall have the prior approval of the Engineer. Any damage to the final pavement surface caused by the pavement marking removal process shall be repaired at the Contractor’s expense by methods acceptable and approved by the Engineer. Section 400 shall apply when corrective measures are required. The use of black-out tape or black-out paint will not be permitted under any circumstance to correct layout errors on any final surface.

Traffic shifts that are done on the final surface shall be accomplished using interim traffic marking tape that can be removed without any blemishing of the final surface. Interim traffic marking tape shall be used on any of the following final surfaces; asphaltic concrete, Portland cement concrete, and bridge deck surfaces. The contractor may propose alternate traffic markings and removal methods on the final surface. Submitted proposals shall include the type of material, method of removal and a cost comparison to the traffic marking tape method. Prior to any approval, the contractor shall field demonstrate to the satisfaction of the Engineer that the proposed traffic markings can be removed without any blemishing of the final surface. If the proposal is determined to be acceptable, a supplemental agreement will be executed prior to the installation of the proposed alternate traffic markings. The supplemental agreement shall denote the type of traffic marking materials, method of removal and any cost and/or time savings to the Department. The Department will not consider or participate in any cost increase that may result from implementing the proposed alternate method.

5. Pay Factor Reduction for Asphaltic Concrete Final Surfaces

When the correction of an error in the layout of the final pavement markings requires the final surface to be grounded, blemished, scarred, or polished the pay factor shall be reduced to 0.95 for the entire surface area of the final topping that has a blemish, polished or a scarred surface. The reduced pay factor shall not be confined to only the width and length of the stripe or the dimensions of the blemished areas, the whole roadway surface shall have the reduced pay factor applied. The area of the reduced pay factor shall be determined by the total length and the total width of the roadway affected. If the affected area is not corrected, the reduction in pay shall be deducted from the final payment.
for the topping layer of asphaltic concrete. The Engineer shall make the final determination whether correction or a reduced pay factor is acceptable.

The eradication of pavement markings on intermediate and final concrete surfaces shall be accomplished by a method that does not grind, polish, or blemish the surface of the concrete. The method used for the removal of the interim markings shall not spall chip the joints in the concrete and shall not damage the sealant in the joints. Any joint or sealant repairs shall be included in the bid price for Traffic Control-Lump Sum. The proposed method of removal shall have the prior approval of the Engineer.

Failure to promptly remove conflicting or non-applicable pavement markings shall be considered as non-performance under Subsection 150.5.01.

6. Preparation and Planning For Traffic Shifts

When shifting of traffic necessitates removal of centerline, lane lines, or edge lines, all such lines shall be removed prior to, during, or immediately after any change so as to present the least interference with traffic. Interim traffic marking tape shall be used as a temporary substitute for the traffic markings being removed.

Before any change in traffic lane(s) alignment, marking removal equipment shall be present on the project for immediate use. If marking removal equipment failures occur, the equipment shall be repaired or replaced (including leasing equipment if necessary), so that the removal can be accomplished without delay.

Except for the final surface, markings on asphaltic concrete may be obliterated by an overlay course, when approved by the Engineer. When an asphaltic concrete overlay is placed for the sole purpose of eliminating conflicting markings and the in place asphaltic concrete section will allow, said overlay will be eligible for payment only if designated in the Plans. Overlays to obliterate lines will be paid for only once and further traffic shifts in the same area shall be accomplished with removable markings. Only the minimum asphaltic concrete thickness required to cover lines will be allowed. Excessive build-up will not be permitted. When an overlay for the sole purpose of eliminating conflicting markings is not allowed, the markings no longer applicable shall be removed in accordance with Section 656.

C. Raised Pavement Markers

Retroreflective raised pavement markers (RPMs) should be placed as listed below for all asphaltic concrete pavements before the roadway is open to traffic, unless noted this section. On the final surface, RPM’s shall be placed according to the timeframes specified in Subsection 150.3.10.D for full pattern pavement markings. When Portland Cement Concrete is an intermediate or final surface and is open to traffic, one (1) calendar day is allowed for cleaning and drying before the installation of RPMs is required.

Raised pavement markers are not allowed on the right edge lines under any situation.

Retroreflective raised pavement markers (RPMs) should be placed and/or maintained on intermediate pavements surfaces on all highways that the final ride surface is not completed within 45 calendar days which is open to traffic, This includes all resurfacing projects along with widening and reconstruction projects. The RPMs shall be placed as follows:

1. Supplementing Lane Lines:
   a. Eighty foot (80’) center on skip lines with curvature less than three degrees. (Includes tangents)
   b. Forty foot (40’) centers on solid lines and all lines with curvature between three degrees and six degrees.
   c. Twenty foot (20’) centers on curves over six degrees.
   d. Twenty foot (20’) centers on lane transitions or shifts.

2. Supplementing Ramp Gore Lines:
   a. Twenty foot (20’) centers, two each, placed side by side.
3. Other Lines:
   a. As shown on the plans or directed by the Engineer.

D. Exceptions for Interim Markings

Some exceptions to the time of placement and pattern of markings are permitted as noted below; however, full pattern pavement markings are required for the completed project.

1. Two-Lane, Two-Way Roadways
   a. Skip Lines

If used, interim temporary tape or paint skip (broken) stripe may only be used for a maximum of three (3) calendar days. The stripes shall be at least two feet (> 2’) long with a maximum gap of thirty-eight feet (≤ 38’). On curves greater than six degrees (>6⁰), a one-foot (1’) stripe with a maximum gap of nineteen feet (≤ 19’) shall be used. In lane shift areas, solid lines will be required.

Interim raised pavement markers may be substituted for the interim skip (broken) stripes. If raised pavement markers are substituted for the two foot (2’) interim skip stripe, three (3) markers spaced at equal intervals over a two feet (2’) distance will be required. No separate payment will be made if the interim raised pavement markers are substituted for interim skip lines.

Interim raised pavement markers shall be retro-reflective, shall be the same color as the pavement markers for which they are substituted, and shall be visible during daytime.

The type of interim marker and method of attachment to the pavement shall be approved by the Office of Materials and Testing but in no case will the markers be attached by the use of nails. Flexible reflective markers, Type 14 or Type 15, may be used for a maximum of three (3) calendar days as an interim marker. Any flexible reflective markers in use shall be from the QPL-76.

The interim raised pavement markers shall be maintained until the full pattern pavement markings are applied. At the time full pattern markings are applied the interim raised markers shall be removed in a manner that will not interfere with application of the full pattern pavement markings.

b. No Passing Zones Two-Lane, Two-Way Roadways

Passing zones shall be re-established in the locations existing prior to resurfacing. No changes to the location of passing zones shall be done without the written approval of the Engineer. For periods not to exceed three (3) calendar days where interim skip centerlines are in place, no-passing zones shall be identified by using post or portable mounted DO NOT PASS regulatory signs (R4-1) twenty-four inches by thirty inches (24” x 30”) at the beginning and at intervals not to exceed one-half (≤½) mile within each no-passing zone. A post or portable mounted PASS WITH CARE regulatory sign (R4-2) twenty-four inches by thirty inches (24” x 30”) shall be placed at the end of each no-passing zone. Post mounted signs shall be placed in accordance with the MUTCD. Portable signs shall be secured in such a manner to prevent misalignment and minimize the possibility of being blown over by weather conditions or traffic.

On new location projects and on projects where either horizontal or vertical alignments has been modified, the location of No-Passing Zones will be identified by the Engineer.

c. Edge lines

   • Bituminous Surface Treatment Paving

Edge lines will not be required on intermediate surfaces (including asphaltic concrete leveling for bituminous surface treatment paving) that are in use for a period of less than sixty (<60) calendar days except at bridge
approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edge lines shall be placed within thirty (≤30) calendar days of the time that the final surface was placed.

- **All Other Types of Pavement**

  Edge lines will not be required on intermediate surfaces that are in use for a period of less than thirty (<30) calendar days except at bridge approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edge lines shall be placed within fourteen (≤ 14) calendar days of the time that the surface was placed.

2. **Multi-Lane Highways – With No Paved Shoulder(s) or Paved Shoulder(s) Four Feet or Less (≤ 4’)**
   a. **Undivided Highways (Includes Paved Center Turn Lane)**
      - Centerlines and No-Passing Barrier-Full Pattern centerlines and no-passing barriers shall be restored before opening to traffic.
      - Lane lines- Interim skip (broken) stripe as described in Subsection 150.3.10.D.1.a. may be used for periods not to exceed three (≤ 3) calendar days. Skip lines are not permitted in lane shift areas. Solid lines shall be used.
      - Edge lines- Edge lines shall be placed on intermediate and final surfaces within three (3) calendar days of obliteration.
   b. **Divided Highways (Grass or Raised Median)**
      - Lane lines- Full pattern skip stripe shall be restored before opening to traffic. Skip lines are not permitted in lane shift areas. Solid lines shall be required.
      - Centerline/Edge line- Solid lines shall be placed on intermediate and final surfaces within three calendar days of obliteration.

3. **Limited Access Roadways and Roadways with Paved Shoulders Greater Than Four Feet (> 4’)**
   a. Same as Subsection 150.3.10.D.2 except as noted in (b) below.
   b. **Edge lines**
      - Asphaltic Concrete Pavement- Edge lines shall be placed on intermediate and final surfaces prior to opening to traffic.
      - Portland Cement Concrete Pavement- Edge lines shall be placed on any surface open to traffic no later than one calendar day after work is completed on a section of roadway. All water and residue shall be removed prior to daily striping.

4. **Ramps for Multi-Lane Divided Highways**

   A minimum of one solid line edge stripe shall be placed on any intermediate surface of a ramp prior to opening the ramp to traffic. The other edge stripe may be omitted for a maximum period of three (3) calendar days on an intermediate surface. Appropriate channelization devices shall be spaced at a maximum of twenty-five feet (25’) intervals until the other stripe has been installed.

   The final surface shall have both stripes placed prior to opening the ramp to traffic.

5. **Miscellaneous Pavement Markings**
a. **Final Surface**

School zones, railroads, symbols, words and other similar markings shall be placed on final surfaces conforming to Section 652 within fourteen (14) calendar days of completion of the final surface. Final markings shall conform to the type of pay item in the plans. When no pay item exists in the plans the final markings shall conform to Section 652 for painted markings.

b. **Intermediate Surface**

Intermediate surfaces that will be in use for more than forty-five (45) calendar days shall have the miscellaneous pavement markings installed to conform to the requirement of Section 652. Under Subsection 150.6, Special Conditions, or as directed by the Engineer these markings may be eliminated.

c. **Stop Line**

All stop signs and traffic signals shall have temporary twelve inch (12") stop lines placed in accordance with MUTCD (3B.16) on all surfaces prior to opening to traffic. Temporary tape may be used.

**150.3.11 Differences In Elevations Between Travel Lanes And Shoulders**

All time frames and requirements may be changed with the Engineer’s approval.

A. **Differences in Elevations**

Difference in elevations due to construction between travel lanes and/or shoulders within the clear zone should be limited to the following:

1. Difference of two inches (≤ 2") or less between adjacent travel lanes should remain for a maximum period of fourteen (14) calendar days.

2. Difference of two inches (≤ 2") or less between adjacent travel lane and paved shoulder should remain for a maximum of thirty (30) calendar days. Traffic control devices shall be in accordance with Detail 150-G.

3. Difference of greater than two inches (> 2") is permitted for continuous operations. Traffic control devices shall be in accordance with Detail 150-E.

4. Difference of greater than two inches (> 2") between travel lanes and/or shoulders for non-continuous operations will not be allowed for more than a twenty-four (24) hour period. For the first twenty-four (24) hours, traffic control shall be in accordance with Detail 150-E. After twenty-four (24) hours the section should be healed according to Detail 150 – H. This condition can exist for a maximum sixty (60) calendar days.

   a. A single length of area that does not exceed 1000 feet total length may be left open as a startup area for periods not to exceed forty-eight (48) hours provided the Contractor can demonstrate the ability to complete the Work in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed.

   b. For cement stabilized base, work adjacent to the travel lane and/or shoulders shall be healed as per Detail 150-H within forty-eight (48) hours after the seven (7) calendar day curing period is complete for each section placed. During the placement and curing period, traffic control shall be in accordance Detail 150-F.

Failure to meet these requirements shall be considered as non-performance of Work under Subsection 150.5.01.

B. **Healed Section**

Healed section and traffic control devices should be placed in accordance with Detail 150-H. If crushed stone materials are used to provide a healed section no separate payment will be made for the material used to heal any section. The
Contractor may submit a plan to utilize existing pay items for crushed stone provided the plan clearly demonstrates that the materials used to heal an area will be incorporated into the work with minimal waste. Handling and hauling of any crushed stone used to heal shall be kept to a minimum. The Engineer shall determine if the crushed stone used to heal meets the specifications for gradation and quality when the material is placed in the final location.

C. Emergency Situations

Inclement weather, traffic accidents, and other events beyond the control of the Contractor may prevent the work from being completed as required above. The Contractor shall notify the Engineer in writing stating the conditions and reasons that have prevented the Contractor from complying with the time limitations. The Contractor shall also outline a plan detailing immediate steps to complete the work. Failure to correct these conditions on the first calendar day that conditions will allow corrective work shall be considered as non-performance of Work under Subsection 150.5.01.

D. Plating

Plating for drainage structures, utility facilities, etc. is prohibited on the interstates. Plating on State Routes and secondary roads will require the prior approval of the project engineer. Steel plates shall not be used on highways with a posted speed greater than forty-five (45) mph. The plate shall completely cover the pavement cut or excavation. The plate shall be adequately secured and shall provide a safe and reasonable transition to the adjoining roadway surface. An asphalt wedge can be used to provide a smooth transition over the plate(s). Temporary traffic control warning signs W8-24 shall be posted in advance warning motorist about plates in roadway in accordance with the MUTCD. Plating should not remain in place for more than four (4) calendar days.

E. Asphaltic Concrete Resurfacing Projects

1. Shoulder Construction Included as a Part of the Contract

When the placement of asphaltic concrete materials creates a difference in elevation greater than two inches (> 2") between the earth shoulder (grassed or un-grassed) and the edge of travel lane or between the earth shoulder and a paved shoulder that is less than four feet (< 4’) in width, the Contractor shall place and maintain drums in accordance with the requirements of Subsection 150.2.04.B.3. When the edge of the paved surface is tapered with a safety edge, drums may be spaced at two (2) times the speed limit in MPH. Drums shall remain in place and be maintained until the difference in elevation has been eliminated by the placement of the appropriate shoulder materials.

2. Shoulder Construction Not Included as a Part of the Contract

When the placement of asphaltic concrete materials creates a difference in elevation greater than two inches (> 2") between the earth shoulder (grassed or un-grassed) and the edge of travel lane or between the earth shoulder and a paved shoulder that is less than four feet (< 4’) in width, the Contractor shall notify the Engineer, in writing, when the resurfacing work including all punch list items has been completed.
Drums spaced at twenty foot (20') intervals. **Note:** If the travel way width is reduced to less than ten feet (< 10') by the use of drums, vertical panels shall be used in lieu of drums.

Location of drums when Elevation Difference exceeds four inches (> 4”)

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Drums spaced at forty foot (40') intervals.

Location of drums when Elevation Difference is greater than two inches (> 2”) to four inches (4”)

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**ELEVATION DIFFERENCE GREATER THAN FOUR INCHES (> 4”)**

**DETAIL 150-E**

**ELEVATION DIFFERENCE GREATER THAN TWO INCHES (> 2”) TO FOUR INCHES (4”)**

**DETAIL 150-F**
<table>
<thead>
<tr>
<th>Location of drums spaced at eighty foot (80') intervals.</th>
<th>Location of drums when Elevation Difference is two inches (≤ 2&quot;) or less.</th>
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Drums spaced at eighty foot (80') intervals. Location of drums when Elevation Difference is two inches (≤ 2") or less.

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150.3.12 Work Zone Law Enforcement

Work zone law enforcement consists of utilizing a uniformed law enforcement officer equipped with patrol vehicle and blue flashing lights to enforce traffic laws in construction work zones and the administration of this service. Payment for work zone law enforcement will be made only for the utilization in work zones during lane closures, traffic pacing, or other activities that occur within travel lanes. The Contractor will be responsible for negotiating a rate of reimbursement and making reimbursement to that law enforcement agency.

The Contractor will be responsible for coordinating and scheduling the utilization of the work zone law enforcement. The Engineer may require the use of work zone law enforcement at specific times and locations.

150.4 Measurement

150.4.01 Traffic Control Items

A. Traffic Control

When listed as a pay item in the Proposal, payment will be made at the lump sum price bid, which will include all traffic control not paid for separately, and will be paid as follows:

When the first Construction Report is submitted, a payment of twenty-five percent (25%) of the lump sum price will be made. For each progress payment thereafter, the total of the Project percent complete shown on the last pay statement plus twenty-five percent (25%) will be paid (less previous payments), not to exceed one hundred percent (100%).

When no payment item for Traffic Control-Lump Sum is shown in the Proposal, all of the requirements of Section 150 and the Temporary Traffic Control Plan shall be in full force and effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submittal.

B. Changeable Message Sign, Portable

Portable changeable message sign will be measured as specified in Section 632.

C. Flashing Beacon Assembly

Flashing beacon assemblies will be measured as specified in Section 647.

D. Pavement Markings

Pavement markings will be measured as specified in Section 150.

E. Portable Impact Attenuators

Each portable impact attenuator will be measured by the unit/array which shall include all material components, hardware, incidentals, labor, site preparation, and maintenance, including spare parts recommended by the manufacturer for repairing accident damage. Each unit will be measured only once regardless of the number of locations installed, moves required, or number of repairs necessary because of traffic damage. Upon completion of the project, the units shall be removed and retained by the Contractor.

F. Signs

When shown as a pay item in the contract, interim special guide signs will be paid for as listed below. All other regulatory, warning, and guide signs, as required by the Contract, will be paid for under Traffic Control Lump Sum or included in the overall bid submitted.

1. Interim ground mounted or interim overhead special guide signs will be measured for payment by the square foot. This payment shall be full compensation for furnishing the signs, including supports as required, erecting, illuminating
overhead signs, maintaining, removing, re-erecting, and final removal from the Project. Payment will be made only one time regardless of the number of moves required.

2. Remove and reset existing special guide signs, ground mount or overhead, complete, in place, will be measured for payment per each. Payment will be made only one time regardless of the number of moves required.

3. Modify special guide signs, ground mount or overhead, will be measured for payment by the square foot. The area measured shall include only that portion of the sign modified. Payment shall include materials, removal from posts or supports when necessary, and remounting as required.

G. **Temporary Audible Information Device**

Temporary audible information devices are measured as the actual number furnished and installed in accordance with the manufacturer’s recommendations, which shall include all necessary materials, equipment, labor, site preparation, maintenance and removal. Each temporary audible information device will be paid for only one time regardless of the number of times it’s reused during the duration of The Work. These devices shall remain the property of the Contractor.

H. **Temporary Barrier**

Temporary barrier shall be measured as specified in Sections 620.

I. **Temporary Curb Cut Wheelchair Ramps**

Temporary curb cut wheelchair ramps are measured as the actual number formed and poured, complete and accepted, which shall include all necessary materials, equipment, labor, site preparation, maintenance and removal. No additional payment will be made for sawing existing sidewalk and removal and disposal of removed material for temporary wheelchair ramp construction. No additional payment will be made for constructing the detectable warning surface.

J. **Temporary Guardrail Anchorage, Type 12**

Temporary guardrail anchorage-type 12 will be measured by each assembly, complete in place and accepted according to the details shown in the plans, which shall also include the additional guardrail and appurtenances necessary for transition and connection to temporary concrete barrier. Payment shall include all necessary materials, equipment, labor, site preparation, maintenance and removal.

K. **Temporary Walkways with Detectable Edging**

Temporary walkways with detectable edging will be measured in linear feet (meters), complete in place and accepted, which shall include all necessary materials, equipment, labor, site preparation, temporary pipes, passing spaces, maintenance and removal. No payment will be made for temporary walkways where existing pavements or existing edging (that meets the requirements of MUTCD) are utilized for the temporary walkway. Payment for temporary detectable edging, including approved barriers and channelizing devices, installed on existing pavement shall be included in Traffic Control-Lump Sum.

L. **Traffic Signal Installation- Temporary**

Temporary traffic signal installation will be measured as specified in Section 647.

M. **Work Zone Law Enforcement**

When work zone law enforcement is shown as a pay item, work zone law enforcement will be measured for payment by the hour. The Contractor shall provide a daily work record containing the actual number of hours charged by the law enforcement officer. The daily work record shall be compiled on a form provided by the Department, signed by the law enforcement officer, signed by the Contractor's Worksite Traffic Control Supervisor attesting that the law enforcement was utilized during the time recorded, and then submitted to the Engineer.
Work zone law enforcement will be measured for payment by the hour up to the maximum number of hours included in the contract. The Engineer may at his discretion increase the maximum number of hours.

Payment shall be full compensation for reimbursing the law enforcement agency, and for all cost incurred by the Contractor in coordinating, scheduling, and administering the item work zone law enforcement.

If no work zone law enforcement pay item is included in the contract, then all work zone law enforcement cost shall be included in Traffic Control – Lump Sum.

150.5 Payment

When shown in the Schedule of Items in the Proposal, the following items will be paid for separately. Payment will be made under:

<table>
<thead>
<tr>
<th>Item No. 150</th>
<th>Traffic control -</th>
<th>Lump sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item No. 150</td>
<td>Traffic control, solid traffic stripe __ inch, (color)</td>
<td>Per linear mile</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Traffic control, skip traffic stripe __ inch, (color)</td>
<td>Per linear mile</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Traffic control, solid traffic stripe, thermoplastic 24 inch, color</td>
<td>Per linear mile</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Traffic control, raised pavement markers –all types</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Remove and reset, existing special guide signs, overhead, complete-in-place</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Temporary walkways with detectable edging</td>
<td>Per linear foot</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Temporary curb cut wheelchair ramps</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Temporary audible information device</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Single lane closure</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Multilane closure</td>
<td>Per each</td>
</tr>
<tr>
<td>Item No. 150</td>
<td>Work Zone Law Enforcement</td>
<td>Per hour</td>
</tr>
</tbody>
</table>

150.5.01 Enforcement and Adjustments

The safe passage of pedestrians and traffic through and around the temporary traffic control zone, while minimizing confusion and disruption to traffic flow, shall have priority over all other Contractor activities. Continued failure of the Contractor to comply with the requirements of Section 150 - Traffic Control will result in non-refundable deductions of monies from the Contract as shown in this Subsection for non-performance of Work.

Failure of the Contractor to comply with this Specification shall be reason for the Engineer suspending all other work on the Project, except erosion control and traffic control, taking corrective action as specified in Section 105, and/or withholding payment of monies due to the Contractor for any work on the Project until traffic control deficiencies are corrected. These other actions shall be in addition to the deductions for non-performance of traffic control.

<table>
<thead>
<tr>
<th>SCHEDULE OF DEDUCTIONS FOR EACH CALENDAR DAY OF DEFICIENCIES OF TRAFFIC CONTROL INSTALLATION AND/OR MAINTENANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORIGINAL TOTAL CONTRACT AMOUNT</td>
</tr>
<tr>
<td>From More Than</td>
</tr>
<tr>
<td>$0</td>
</tr>
<tr>
<td>$100,000</td>
</tr>
<tr>
<td>$1,000,000</td>
</tr>
<tr>
<td>$5,000,000</td>
</tr>
<tr>
<td>$20,000,000</td>
</tr>
<tr>
<td>$40,000,000</td>
</tr>
</tbody>
</table>
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 18-2

SPECIAL PROVISION 620 – TEMPORARY BARRIERS
Replace Section 620 with the following:

620.1 General Description
This work provides for Method 1 and Method 2 temporary barrier systems.

620.1.01 Definitions
Method 1 - Method of furnishing, placing, maintaining, moving, and reusing where required, and removing temporary barrier of the length and at the locations shown on the Plans. Method 1 barrier is not suitable on bridges where the distance from the centerline of the barrier to the free edge of the bridge deck is less than 6'- 0" (1.8 m) measured normal to the barrier.

Method 2 - Method of furnishing, placing, maintaining, moving, and reusing where required, and removing manufactured barrier of the length, and at the locations shown on the Plans. Method 2 barrier is to be used on bridges and bridge approaches where the distance from the centerline of the barrier to the free edge of the bridge deck is less than 6'- 0" (1.8 m) measured normal to the barrier.

620.1.02 Related References
A. Standard Specifications
   Section 500—Concrete Structures
   Section 501—Steel Structures
   Section 511—Reinforcement Steel

B. Referenced Documents
   General Provisions 101 through 150
   Manual of Assessing Safety Hardware (MASH)
   Report No. TRP-03-386-19 – MASH TL-3 Evaluation of Concrete and Asphalt Tied-Down Anchorage for Portable Concrete Barrier

620.1.03 Submittals
Method 1 - For temporary barrier produced on or before December 31, 2019, submit certification from the manufacturer that the proposed barrier and its interconnecting hardware replicate an NCHRP-350 or MASH “Test Level 3” approved barrier, documented in an eligibility letter from FHWA or certification that the barrier meets the requirements of Ga. Std. 4961. Submit all certification documents to the engineer prior to delivery of the barrier to the project.

For temporary barrier produced after December 31, 2019, submit certification from the manufacturer that the proposed barrier and its interconnecting hardware replicate a MASH 2016 “Test Level 3” approved barrier, documented in an eligibility letter from FHWA. Submit all certification documents to the engineer prior to delivery of the barrier to the project.
Section 620 – Temporary Barrier

Method 2 - For temporary barrier produced on or before December 31, 2019, submit certification from the manufacturer that the proposed barrier and its interconnecting hardware replicates an NCHRP-350 or MASH “Test Level 3” approved barrier, documented in an eligibility letter from FHWA and that the barrier does not deflect more than 1'-0" (300mm) under NCHRP or MASH test conditions. Attach the eligibility letter stating that the proposed barrier is in compliance with NCHRP-350 or MASH “Test Level 3” and that the barrier meets the deflection criteria to the certification. Submit all certification documents to the engineer prior to delivery of the barrier to the project.

For temporary barrier produced after December 31, 2019, submit certification from the manufacturer that the proposed barrier and its interconnecting hardware replicate a MASH 2016 “Test Level 3” approved barrier, documented in an eligibility letter from FHWA and that the barrier does not deflect more than 1'-0" (300mm) under MASH 2016 test conditions or certification that the proposed barrier, its interconnecting hardware, and anchoring system replicate the Midwest F-Shape (22.5"x32"x12.5") and Technical Report TRP-03-386-19 (for deck depths less than 8", anchor bolt must extend through deck with washer and nut on underside of deck). For barrier other than the Midwest F-Shape, attach the eligibility letter stating that the proposed barrier is in compliance with MASH 2016 “Test Level 3” and that the barrier meets the deflection criteria to the certification. Submit all certification documents to the engineer prior to delivery of the barrier to the project.

620.2 Materials

A. Method 1

Supply a temporary barrier.

Ensure that materials are in accordance with the manufacturer’s recommendations, specifications, and details or that the materials meet the requirements of the Standard Specifications and Ga. Std. 4961.

B. Method 2

Supply a temporary barrier.

Ensure that materials used in the barrier are in accordance with the manufacturer’s recommendations, Specifications, and details.

620.2.01 Delivery, Storage, and Handling

A. General

Deliver, store, and handle barrier in accordance with the manufacturer’s recommendations.

Repair damage to the barrier and its connections in accordance with the manufacturer’s recommendations at no additional cost to the Department prior to acceptance for use by the Department.

620.3 Construction Requirements

620.3.01 Personnel

General Provisions 101 through 150.

620.3.02 Equipment

General Provisions 101 through 150.

620.3.03 Preparation

General Provisions 101 through 150

620.3.04 Fabrication

A. Method 1

Perform barrier fabrication as detailed on Ga. Std. 4961 or in accordance with the manufacturer’s recommendations.

B. Method 2

Perform barrier fabrication in accordance with the manufacturer’s recommendations.
620.3.05 Construction

A. General

Handle and transport units to prevent damage and/or as recommended by the manufacturer. When required, use units at one or more sites on the same project.

Ensure that the units are complete and in acceptable condition and located where designated on the Plans or directed by the Engineer before acceptance by the Department.

Use the Plan quantity of barrier effectively to complete The Work within the Contract time. If scheduling The Work requires additional barrier, furnish it at no additional expense to the Department.

Use only one section shape, length, and connection type in a single run of interconnected barrier.

Interconnect all barrier sections within each single run of barrier.

B. Method 2

Rigidly attach the barrier to the bridge deck and extend it off the bridge a transition distance indicated in the Standard Plans.

Use non-shrink grout to fill all holes remaining in permanent bridge decks after barrier is removed.

620.3.06 Quality Assurance

General Provisions 101 through 150.

620.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

620.4 Measurement

This work will be measured per unit (per linear foot (meter)) of accepted barrier delivered and used. The quantity shall be computed by multiplying the number of units by the length of each unit as per Standard 4961 or approved alternate, subject to the maximum amount specified in Subsection 620.3.05.

620.4.01 Limits

General Provisions 101 through 150.

620.5 Payment

This work is paid for at the Contract Price per linear foot (meter) of temporary barrier Method 1 or barrier Method 2 as designated complete in place. Payment includes fabrication, use, moving, reuse, and removal of the units.

No separate payment will be made for moving and/or reusing units during the work or for using additional units beyond the Plan quantity to facilitate the construction schedule.

No separate payment will be made for filling holes used to bolt Method 2 barrier to bridge decks.

The first 75 percent of the Contract Unit Price bid will be paid on the first monthly estimate following initial delivery, installation, and acceptance.

The remaining 25 percent will be paid when the Project is complete or when the material is no longer needed and removed from the Project, whichever applies.

Payment will be made under:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>620</td>
<td>Temporary Barrier, Method No. 1</td>
<td>Per linear foot (meter)</td>
</tr>
<tr>
<td>620</td>
<td>Temporary Barrier, Method No. 2</td>
<td>Per linear foot (meter)</td>
</tr>
</tbody>
</table>

620.5.01 Adjustments

General Provisions 101 through 150.
Georgia Department of Transportation

Technical Provisions
For
Design-Build Agreement
P.I. No. 0013545

Attachment 22-1
Noise Impact Assessment
Executive Summary
GDOT Project #: NHIM0-0085-02(165) and NHIM0-0085-02(166)
County: Gwinnett, Barrow, Jackson
PI No.: 110610 & 0013545
Project Name: I-85 WIDENING FM N OF CR 134/HAMILTON MILL ROAD TO N OF SR 211 and FROM N of SR 211 TO NORTH OF SR 11/US 129
Date: June 2017

MPO and TIP Number: This project is identified in the Plan 2040 Regional Transportation Plan and FY 2016-2021 Transportation Improvement Program by reference numbers: GW-386 and BA-008.

Project Description: Projects NHIM0-0085-02(165) and NHIM0-0085-02(166) are proposals to widen and reconstruct Interstate 85 (I-85). The proposed project PI No. 110610 would widen and reconstruct 12.5 miles of I-85 from I-985 to just north of State Route (SR) 211. The proposed project PI No. 0013545, to be constructed in conjunction with PI No. 110610, would widen and reconstruct approximately 10.7 miles of I-85 from just north of SR 211 to just north of US 129. The typical section is proposed to expand from two lanes to three lanes in each direction. The length of both proposed projects combined is approximately 23.2 miles. The proposed project would use the existing right-of-way width to accommodate the proposed typical section. This project is located in northeastern Gwinnett County and northern Barrow and Jackson Counties. This project consists of two different PI’s. PI No. 110610 begins just south of SR 20/Buford Drive as a restriping project and pavement for that section is being constructed as part of adjacent I-85 Express Lanes Project (PI No. 110600). Pavement construction for PI No. 110610 begins at CR 134/Hamilton Mill Road and ends just north of SR 211. PI No. 0013545 begins just north of SR 211 and ends at US 129/SR 11. The existing typical section is a four-lane rural highway with a grassed median.

Modeling Assumptions: Estimation of traffic-related sound levels associated with the existing (2015), no-build (2039) and build (2039) alternatives was conducted using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), version 2.5. Inputs to the model include existing and future roadway alignments, area terrain, and the shielding effects of structures within the corridor.

To provide a “worst case” analysis of the existing and future conditions, peak hour traffic volumes operating at the posted speed limit were analyzed. Existing truck percentages of a range from 10.5 to 23.0% (1.5% to 5.0% medium truck, 8.5% to 18.0% heavy truck) were used along I-85 while future condition truck percentages were modeled at the same percentages.

Summary of Findings, PI 110610:

<table>
<thead>
<tr>
<th>Impacted Receiver #</th>
<th># of Receptors Represented</th>
<th>Property Identification</th>
<th>Is Abatement Feasible &amp; Reasonable</th>
<th>Approximate cost of abatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1NB012, 1NB013, 1NB015</td>
<td>3</td>
<td>Between I-985 and State Route 20 (Willow Bend)</td>
<td>No, Not Reasonable to extend existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>1NB017, 1NB018</td>
<td>2</td>
<td>Between I-985 and State Route 20 (The Village of Rock Springs)</td>
<td>1NB017 and 1NB018 receive abatement from existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>1NB060-1NB067</td>
<td>8</td>
<td>Between I-985 and State Route 20 (Sentinel Ridge)</td>
<td>Yes, all receptors receive abatement from existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>1NB075-1NB077</td>
<td>3</td>
<td>Between I-985 and State Route 20 (Sentinel Ridge)</td>
<td>No, Not Reasonable to extend existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>2NB004-2NB015</td>
<td>43</td>
<td>Between State Route 20 and Gravel Springs Road (Residences in Summer)</td>
<td>Not reasonable, upper levels of one apartment building</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
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<td>-------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>2SB021</td>
<td>5</td>
<td>Ivy Creek Greenway</td>
<td>No, barrier is not feasible</td>
<td>N/A</td>
</tr>
<tr>
<td>3NB001, 3NB003</td>
<td>2</td>
<td>Between State Route 20 and Gravel Springs Road (Isolated residences on Sunny Hill Road and Morgan Road)</td>
<td>No, cost to extend barrier for 2 receptors is not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>3NB038</td>
<td>1</td>
<td>Between State Route 20 and Gravel Springs Road (Residences on Gravel Springs Road)</td>
<td>No, barrier is not feasible</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB001, 3SB002</td>
<td>2</td>
<td>Between State Route 20 and Gravel Springs Road (Residences on Gravel Springs Road)</td>
<td>No, cost to build barrier for 2 receptors not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB003</td>
<td>1</td>
<td>Between Gravel Springs Road and Hamilton Mill Road (Residence on Gravel Springs Road)</td>
<td>No, cost to build barrier for 1 receptor not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB005-3SB009</td>
<td>5</td>
<td>Between Gravel Springs Road and Hamilton Mill Road (Single residence on Camp Branch Road and residences in Stonegate at Ivy Creek subdivision)</td>
<td>No, cost to build barrier is not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB019</td>
<td>1</td>
<td>Between Gravel Springs Road and Hamilton Mill Road (Residence on</td>
<td>No, cost to extend barrier for 1 receptor is not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------</td>
<td>-------------------------</td>
<td>------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Pucketts Mill Road)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4NB005-4NB009</td>
<td>15</td>
<td>Between Hamilton Mill Road and SR 211 (Duncan Creek Park)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$924,991</td>
</tr>
<tr>
<td>4NB014</td>
<td>1</td>
<td>Between Hamilton Mill Road and SR 211 (Residence on Spout Springs Road)</td>
<td>No, an extension of proposed Barrier 4-3 was reviewed to provide abatement for 4NB014 but this longer version was determined not to be reasonable.</td>
<td>N/A</td>
</tr>
<tr>
<td>4NB022, 4NB023, 4NB025, 4NB035-4NB050, 4NB066-4NB068, 4NB081</td>
<td>38</td>
<td>Between Hamilton Mill Road and SR 211 (Mill Creek High School and residences in Flowery Branch Crossing subdivision)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$2,498,157</td>
</tr>
<tr>
<td>4NB085-4NB090, 4NB096-4NB100</td>
<td>11</td>
<td>Between Hamilton Mill Road and SR 211 (Residences in Pilgrim Acres subdivision)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,021,905</td>
</tr>
<tr>
<td>4SB006-4SB017, 4SB021-4SB026, 4SB032, 4SB036-4SB039</td>
<td>23</td>
<td>Between Hamilton Mill Road and SR 211 (Residences in Beyers Landing subdivision and along Doc Hughes Road)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,608,094</td>
</tr>
<tr>
<td>4SB046-4SB048, 4SB056, 4SB061-4SB070, 4SB073-4SB094, 4SB115-4SB124, 4SB127</td>
<td>50</td>
<td>Between Hamilton Mill Road and SR 211 (Residences in Watermill and Oakpointe subdivisions)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$2,804,497</td>
</tr>
</tbody>
</table>

Project Name: I-85 Widening  
County: Gwinnett, Barrow, Jackson  
P.I. Number(s): 110610 and 0013545
<table>
<thead>
<tr>
<th>Impacted Receiver #</th>
<th># of Receptors Represented</th>
<th>Property Identification</th>
<th>Is Abatement Feasible &amp; Reasonable</th>
<th>Approximate cost of abatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4SB128, 4SB238</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4SB132, 4SB138-4SB145, 4SB155, 4SB158-4SB160, 4SB169-4SB182, 4SB189-190, 4SB194, 4SB195, 4SB205-4SB207, 4SB213</td>
<td>35</td>
<td>Between Hamilton Mill Road and SR 211 (Residences on Flowery Branch Road and in Willow Leaf subdivision)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,798,154</td>
</tr>
<tr>
<td>5NB006, 5NB009, 5NB010, 5NB013-5NB017, 5NB022-5NB027, 5NB030, 5NB031</td>
<td>16</td>
<td>Between Hamilton Mill Road and SR 211 (Residences in Retreat at Ashbury subdivision)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,077,560</td>
</tr>
<tr>
<td>5NB040-5NB043, 5NB047, 5NB052</td>
<td>6</td>
<td>Between Hamilton Mill Road and SR 211 (Residences in Savannah Oaks subdivision and one commercial property on SR 124)</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>5SB005, 5SB006, 5SB009, 5SB011</td>
<td>12</td>
<td>Between Hamilton Mill Road and SR 211 (Legends Golf Course)</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Summary of Findings, PI 0013545:

<table>
<thead>
<tr>
<th>Impacted Receiver #</th>
<th># of Receptors Represented</th>
<th>Property Identification</th>
<th>Is Abatement Feasible &amp; Reasonable</th>
<th>Approximate cost of abatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>Office Building located north of SR 211 and east of I-85</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>6,7</td>
<td>2</td>
<td>Residential structures in the southeast quadrant of I-85 and Jessie Cronic Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
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<td>-------------------------</td>
<td>-------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>14, 15, 16, 17, 18, 19, 20, 21, 22</td>
<td>65</td>
<td>Residential structures, Braselton Christian Academy, and a cemetery along Zion Church Road, north of SR 53 and east of I-85</td>
<td>Yes, feasible and reasonable</td>
<td>$1,032,413</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>257</td>
<td></td>
<td>Residential structure located north of SR 53, east of I-85, and west of SR 124</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>25, 26</td>
<td>2</td>
<td>Residential structures east of I-85, at the end of Tom White Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>27, 28</td>
<td>2</td>
<td>Residential structures located in the northwest quadrant of SR 60 and McNeil Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>Residential structures located in the northwest quadrant of SR 60 and McNeil Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>92, 93</td>
<td>2</td>
<td>Residential structures located in the northwest quadrant of SR 60 and McNeil Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>83, 84, 85, 86, 87, 88, 89, 90</td>
<td>8</td>
<td>Residential structures located in a subdivision north of SR 60, west of I-85, and east of McNeal Road, at the end of Margie Court and Lamar Lane</td>
<td>Yes, feasible and reasonable</td>
<td>$439,964</td>
</tr>
<tr>
<td>64, 65, 66, 67, 68, 69, 259, 260, 261</td>
<td>9</td>
<td>Residential structures located in the Shadow Brook subdivision, west of I-85 and east of McNeal Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>32, 33, 34, 35, 37</td>
<td>5</td>
<td>Residential structures at the end of Stoneview Drive, east of I-85 and west of SR 332</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>38</td>
<td>1</td>
<td>Residential structure in the southeast quadrant of I-85 and SR 332</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>62</td>
<td>1</td>
<td>Residential structure in the southwest quadrant of I-85 and SR 332</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>39, 40, 41, 42, 45, 46</td>
<td>6</td>
<td>Residential structures along Katie Spring Lane, east of I-85 and west of Old Pendergrass Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>48, 49, 50, 53, 54</td>
<td>5</td>
<td>Residential structures at the end of Whirlaway Street and Lewis Sailors Road, east of I-85 and west of Old Pendergrass Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>59</td>
<td>1</td>
<td>Residential structure east of I-85 and north of SR 11/US 129</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Prepared By: Keith McCage
Signature: [Signature]
Date: 7/10/17

QC/QA: Brandon Batt
Signature: [Signature]
Date: 7/10/17

Approved By: GDOT
Signature: [Signature]
Date: 7/10/17

Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
NOISE IMPACT ASSESSMENT
PROJECT NHIM0-0085-02(165) and NHIM0-0085-02(166)
GWINNETT, BARROW, JACKSON COUNTIES
I-85 WIDENING FM N OF CR 134/HAMILTON MILL ROAD TO N OF SR 211 AND FROM N OF SR 211 TO NORTH OF SR 11/US 129
PI No. 110610 & 0013545
June 2017

1. INTRODUCTION

In compliance with 23 USC Section 109(h) and (i), the Federal Highway Administration (FHWA) established a standard for the assessment of highway traffic-generated noise. The standard, published as Part 772 of Title 23 of the Code of Federal Regulations (23 CFR Part 772), provide procedures to be followed in conducting noise analyses that will protect the public health, welfare and livability. In accordance with the Noise Control Act of 1972, coordination of this regulation with the Environmental Protection Agency (EPA) has been completed. The following assessment has been prepared in accordance with 23 CFR Part 772.

This report focuses on the human environment and documents the results of a noise analysis completed for the proposed project, in order to:

a. Provide baseline noise levels that will be used in determining project impact.
b. Predict the effects that the proposed project would have on the noise environment.
c. Identify impacted locations where noise abatement is feasible and reasonable and likely to be included in the project, and locations where impacts will occur and abatement is not feasible and reasonable.

1.1 What is The Proposed Project?

Projects NHIM0-0085-02(165) and NHIM0-0085-02(166) are proposals to widen and reconstruct Interstate 85 (I-85). The proposed project PI No. 110610 would widen and reconstruct 12.5 miles of I-85 from I-985 to just north of State Route (SR) 211. The proposed project PI No. 0013545, to be constructed in conjunction with PI No. 110610, would widen and reconstruct approximately 10.7 miles of I-85 from just north of SR 211 to just north of US 129. The typical section is proposed to expand from two lanes to three lanes in each direction. The length of both proposed projects combined is approximately 23.2 miles. The proposed project would use the existing right-of-way width to accommodate the proposed typical section. This project is located in northeastern Gwinnett County and northern Barrow and Jackson Counties. This project consists of two different PI’s. PI No. 110610 begins just south of SR 20/Buford Drive as a restriping project and pavement for that section is being constructed as part of adjacent I-85 Express Lanes Project (PI No. 110600). Pavement construction for PI No. 110610 begins at CR 134/Hamilton Mill Road and ends just north of SR 211. PI No. 0013545 begins just north of SR 211 and ends at US 129/SR 11. The existing typical section is a four-lane rural highway with a grassed median.
Figure 1: Project Location Map

I-85 Widening & Improvements
PI Nos. 110610 & 0013545
Gwinnett, Barrow, and Jackson Counties
1.2 What is a Type I Project?

“Highway Traffic Noise Policy and Guidance,” was issued in July 2010 (revised January 2011) by the FHWA. In compliance with this guidance, a Type I project is defined below:

1. The construction of a highway on new location; or,
2. The physical alteration of an existing highway where there is either:
   (i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,
   (ii) Substantial Vertical Alteration. A project that removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,
3. The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a (high occupancy vehicle (HOV) lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,
4. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
5. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
6. restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
7. The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

1.3 How is this Project Classified as a Type I Project?

The proposed I-85 widening from north of CR 134/Hamilton Mill Road to north of SR 11/US 129 would include the addition of a through-traffic lane and, therefore, would be classified as a Type I project.

2. What is the Existing Noise Environment?

According to 23 CFR 772 existing noise levels are defined as “the worst noise hour resulting from the combination of natural and mechanical sources and human activity usually present in a particular area.”

The study area is made up of commercial areas near the interchanges, residential subdivisions, parks, undeveloped land, and warehouse/distribution centers. Commercial development includes retail, offices, restaurants, and hotels. In addition, there are non-profit and institutional land uses located in the study area including parks, trails, schools and churches. The project is broken into six segments. The first five segments make up PI 110610 and the sixth segment is PI 0013545. Below is a brief breakdown of the land uses in each segment.

Segment 1 – This segment consists of three residential subdivisions just southeast of I-85 NB and primarily undeveloped land owned by Gwinnett County northwest of I-85 SB. Near the SR 20 interchange there are three hotels, an apartment complex, and an office building to the northwest and a large retail building to the southeast.

Segment 2 – This segment consists of undeveloped land on both sides of I-85, two residential subdivisions and an apartment complex just southeast of I-85 NB and to the northeast of I-85 SB the Ivy Creek Greenway trail, retail buildings and an apartment complex.
Segment 3 – This segment consists of undeveloped land on both sides of I-85, five residential subdivisions and a townhome community just southeast of I-85 NB and to the northeast of I-85 SB there are isolated single family residences, three residential subdivisions, and a church. Near the Hamilton Mill Road interchange there is a commuter park-n-ride lot, retail, office, and restaurants.

Segment 4 – This segment consists of undeveloped land on both sides of I-85, retail, a movie theater, Duncan Creek park, Mill Creek High School, and two residential subdivisions just southeast of I-85 NB and to the northeast of I-85 SB there are isolated single family residences, and five residential subdivisions.

Segment 5 – This segment consists of undeveloped land on both sides of I-85, two residential subdivisions just southeast of I-85 NB and to the northeast of I-85 SB there is the Chateau Elan property that includes a residential subdivision, Legends golf course, an equestrian complex and two hotels near the SR 211 interchange.

Segment 6 – This segment consists of undeveloped land on both sides of I-85, three hotels, offices, a cemetery, isolated residences, warehouse and distribution centers and three residential subdivisions just southeast of I-85 NB and to the northeast of I-85 SB there are three residential subdivisions, warehouse and distribution centers, and isolated residences. At the SR 53 and US 129/SR 11 interchanges there are truck stops, gas stations, and restaurants.

The principal source of noise in the study area is vehicular traffic, including automobiles and trucks. As an existing transportation corridor, most adjacent land uses are exposed to at least moderate noise levels.

Details:
This chapter presents background information on the characteristics of sound and sound levels, the criteria used by the FHWA and GDOT to measure noise impacts, and the results of noise measurements conducted in the study area at noise-sensitive sites.

2.1 Background

2.1.1 How is Noise Defined?

Noise is typically defined as unwanted or undesirable sound. The basic parameters of noise that affect humans are:

(1) intensity or level,
(2) frequency content, and
(3) variation with time.

Details:
The first parameter is determined by the level of sound, which is expressed in units of decibels (dB). By using this scale, the range of normally encountered sound can be expressed by values between 0 and 120
dB. On a relative basis, a 3-dB change in sound level generally represents a barely perceptible change in a common outdoor setting, to someone with average hearing. A 5-dB positive change presents a “noticeable” change, and a 10-dB positive change is typically perceived as a doubling in the loudness while a 10-dB decrease in noise levels is perceived as a 50 percent reduction in loudness.

The frequency of noise is related to the tone or pitch of the sound and is expressed in terms of cycles per second called hertz (Hz). The human ear can detect a wide range of frequencies from about 20 Hz to 17,000 Hz. However, because the sensitivity of human hearing varies with frequency, the A-weighting system is commonly used. Sound levels measured using this weighting system are called “A-weighted” sound levels and are expressed in decibel notation as “dBA.” The A-weighted sound level is widely accepted as a proper unit for describing environmental noise.

Because environmental noise fluctuates from moment to moment, it is common practice to condense all of this information into a single number called the “equivalent” sound level (Leq). The Leq is a measure of the average sound energy during a specified period of time (typically 1 hour or 24 hours). The Leq is defined as the constant level that, over a given period of time, transmits the same amount of acoustical energy to the receiver as the actual time-varying sound. Studies have shown that Leq is well correlated with human annoyance to sound, and therefore, this descriptor is widely used for environmental noise impact assessment. The Leq measured over a 1-hour period is the hourly Leq (1-hour), which is used to analyze highway noise impacts and abatement.
2.1.2 What are Typical Hourly Sound Levels?

<table>
<thead>
<tr>
<th>Noise Scale: Common Sound Levels</th>
<th>Noise Level dB (A)</th>
<th>Common Indoor Sound Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Outdoor Sound Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-747-200 Takeoff at 2 mi.</td>
<td>110</td>
<td>Rock Band</td>
</tr>
<tr>
<td>Gas Lawn Mower at 3 ft.</td>
<td></td>
<td>Inside Subway Train (NY)</td>
</tr>
<tr>
<td>Diesel Truck at 150 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC-9-30 Takeoff at 2 mi.</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Noisy Urban Daytime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-757 Takeoff at 2 mi.</td>
<td>90</td>
<td>Food Blender at 3 ft.</td>
</tr>
<tr>
<td>Commercial Area</td>
<td></td>
<td>Garbage Disposal at 3 ft.</td>
</tr>
<tr>
<td>Quiet Urban Daytime</td>
<td>80</td>
<td>Shouting at 3 ft.</td>
</tr>
<tr>
<td>Quiet Urban Nighttime</td>
<td>70</td>
<td>Vacuum Cleaner at 10 ft.</td>
</tr>
<tr>
<td>Quiet Suburban Nighttime</td>
<td></td>
<td>Four lane road at 50 feet</td>
</tr>
<tr>
<td>Quiet Rural Nighttime</td>
<td>60</td>
<td>Normal Speech</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>Large Business Office</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dishwasher Next Room</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>Small Theatre,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large Conference Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Background)</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>Library,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bedroom at night,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concert Hall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Background)</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Broadcast &amp; Recording Studio</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Threshold of Hearing</td>
</tr>
</tbody>
</table>

SOURCE:
Draft EIS/EIR LAX Proposed Master Plan Improvements, Los Angeles, CA
U.S. Dept. of Transportation, FAA
January 2001

Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
2.1.3 What Factors Affect Traffic Noise Levels?

Many factors affect noise. Traffic noise level at a site depends on both site geometry (distance, land cover, topography, etc.) and traffic characteristics (volume, vehicle type, speed, truck numbers, etc.) of proposed roadways near a noise site.

Details:
As mentioned above, traffic noise level at a site depends on both site geometry and traffic characteristics of proposed roadways near the site. As an example, for a straight, at-grade roadway with a steady stream of vehicles, the Leq noise level decreases with distance from the roadway. Generally, in areas where the land between the roadway and the receptor site is primarily grass, lawn, or other sound absorptive material, the noise level decreases at a rate of 4.5 dBA per a doubling of the distance. Conversely, in more urban areas with concrete, the noise level drops off at a much slower rate—typically around 3 dBA per a doubling of the distance. These drop-off rates assume vehicle travel speeds remain constant and flat open terrain occurs between the receptor and the roadway. Higher drop off rates will typically occur in areas where there is excess shielding caused by building rows or variations in the terrain.

Assuming similar vehicle mix and travel speeds, a doubling in traffic volume over a given period of time produces a doubling in the sound energy. A doubling in sound energy corresponds to a barely perceptible 3-dBA increase in noise level. At locations where traffic volumes and noise levels are already high, a large change in traffic volume is required to cause a perceptible change in the noise level.

Noise levels from trucks are much greater than noise levels from automobiles. The noise generated by a single heavy truck is as loud as 10 automobiles. Consequently, at a given constant travel speed, noise level changes are more sensitive to the distance of nearby truck lanes and/or to changes in truck volumes than changes in overall traffic flow. However, travel speeds do play a factor, and on a roadway that is carrying a given volume of traffic, road-traffic noise levels increase by approximately 5 to 6 dBA as the speed increases from 30 to 45 mph, and by another 3 dBA as the speed increases to 55 mph.

2.2 What Methodology is used to Predict Noise?

The FHWA Traffic Noise Model (TNM) Version 2.5 was used to predict Leq (1-hour) traffic noise levels. The TNM model is used to obtain reasonable estimates of traffic noise at discrete locations by considering interactions between different noise sources and the effects of topographical features on altering predicted noise levels. A receiver is a discrete point modeled in the TNM program where as a receptor is defined as a representative location of a noise sensitive area for various land uses. In areas where there is a common noise environment, one modeled TNM receiver can be considered representative of many receptors. This occurs in places like multi-family buildings where noise level estimates at one modeled TNM receiver on a given floor may be representative of noise conditions for all the receptors on that floor. For this project, 1094 receivers, representing 1430 receptors, were modeled.

Details:

The TNM model estimates the total sound energy perceived at a modeling receiver by determining the logarithmic sum of the sound energy generated from each of the adjacent roadway segments. The total noise level estimated at a given receiver is a function of the number of automobiles, medium trucks, heavy trucks, and travel speed at which these vehicles are moving on each roadway segment. Moreover,
roadway segments with a higher number of heavy trucks generate more noise than those with lower truck volumes. In the TNM model, these factors are combined in an empirical formula governing the relationship of the reference mean noise emission level of each vehicle type as a function of travel speed. In general, roadway segments located further away contribute less to the estimated total noise level than those roadway segments closer to the receiver. In addition, the TNM model also considers attenuating effects of distance, building rows, topography, average pavement surface, ground surface conditions outside the roadway boundary, trees zones, atmospheric absorption, and any existing sound barriers. Noise generated from sources other than traffic is not included in the model.

Major roadways, significant terrain changes, large paved areas, loose soil associated with wooded areas, ponds, rows of buildings and sensitive receivers were modeled in TNM by importing MicroStation roadway design files into the TNM program. Elevations for the TNM model runs were obtained from digital elevation models based on recent survey as well as some outer points determined using USGS elevation data. Lastly, the number of automobiles, medium trucks, and heavy trucks and their associated travel speeds for each modeled roadway segment were input into the model. The TNM model preparation was completed and the program executed. Upon completion, noise level estimates at the receivers were provided in an output summary Table. Traffic data used for the noise modeling were based on the level of service (LOS) C conditions, which generates the loudest (worst case) traffic noise condition consisting of high traffic volume and travel speeds. Level of Service is defined as the maximum hourly rate at which a vehicle can reasonably be expected to traverse a point /section of a lane or roadway during a given time period. This report used the PM peak hour traffic.

2.3 What is Considered a Noise Impact?

The GDOT defines a noise impact as occurring when design-year build noise levels approach or exceed the NAC thresholds listed in Table 1 below or when predicted design-year build noise levels result in a substantial noise level increase over existing noise levels. The GDOT considers approach levels as 1 dBA less than the noise levels shown in Table 1 on page 6 and defines a substantial noise level increase as being 15 dBA or greater than existing noise levels.

Details:
The National Environmental Policy Act (NEPA) provides broad authority and responsibility for evaluating and mitigating adverse environmental effects, including highway traffic noise. Implementation of NEPA requires federal government agencies to use all practical means and measures to promote the general welfare and foster a healthy environment. The Federal-Aid Highway Act of 1970 required FHWA to develop standards for highway noise.

In response to the problems associated with highway traffic noise, 23 CFR Part 772 “Procedures for Abatement of Highway Traffic Noise and Construction Noise” establishes standards for impact determination and consideration of abatement. The regulation contains noise impact criteria for various land use activities as shown in Table 1, FHWA Noise Abatement Criteria (NAC). The FHWA will not approve the plans and specifications for a federally aided highway project, unless the project includes an adequate evaluation of potential noise abatement measures to comply with the standards.

The FHWA regulations contain NAC, which if approached or exceeded on Type I roadway improvement projects require consideration for noise abatement. In addition to these absolute limits, noise impacts can occur if there is a substantial increase in future build noise levels over comparable existing noise levels.
The GDOT defines a substantial noise level increase as 15 dBA or greater. The regulations emphasize that the NAC are not design goals. The NAC are simply impact criteria that when approached or exceeded require consideration of noise abatement. Also, the regulations require noise abatement where impacts occur and abatement is determined feasible and reasonable in accordance with 23 CFR Part 772.13 and the GDOT noise policy.

Table 1 provides a summary of the FHWA traffic NAC for each type of land use activity category based on the noisiest hourly Leq value. The GDOT defines a noise impact as occurring when design-year build (a 20-year design horizon) noise levels approach or exceed the NAC thresholds listed in Table 1 or when predicted design-year build noise levels result in a substantial noise level increase over existing (year of the traffic study) noise levels. The GDOT considers approach levels as 1 dBA less than the noise levels shown in Table 1 and defines a substantial noise level increase as being 15 dBA or greater than existing noise levels. For example, the approach noise level for Category B land use activities is 66 dBA. The approach noise levels for all NAC categories represent absolute noise impact thresholds, when exceeded constitutes an impact. For example, for NAC land use Category B, a noise level of 65.9 dBA at residential property is not considered an impact, but a noise level of 66.0 dBA or greater is considered a noise impact.

<table>
<thead>
<tr>
<th>Activity Category</th>
<th>Leq(h)</th>
<th>Description of Activity Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>57 (Exterior)</td>
<td>Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.</td>
</tr>
<tr>
<td>B</td>
<td>67 (Exterior)</td>
<td>Residential</td>
</tr>
<tr>
<td>C</td>
<td>67 (Exterior)</td>
<td>Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.</td>
</tr>
<tr>
<td>D</td>
<td>52 (Interior)</td>
<td>Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios</td>
</tr>
<tr>
<td>E</td>
<td>72 (Exterior)</td>
<td>Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F</td>
</tr>
<tr>
<td>F</td>
<td>-</td>
<td>Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing</td>
</tr>
</tbody>
</table>

Project Name: I-85 Widening  
County: Gwinnett, Barrow, Jackson  
P.I. Number(s): 110610 and 0013545
<table>
<thead>
<tr>
<th>Activity Category</th>
<th>Leq(h)</th>
<th>Description of Activity Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>-</td>
<td>Undeveloped lands that are not permitted</td>
</tr>
</tbody>
</table>

Source: FHWA, 23 CFR Part 772

Once the study area has been defined and land use categories determined, each property in the study area is assigned an Activity Category in accordance with Table 1. A detailed description of each type of land use included in each of the seven NAC Activity Categories is outlined in Section 2.4.

### 2.4 How Were Activity Categories Assigned?

Activity categories are assigned based on how land is being used. This means if the land is being used as a residence, business, church, etc., it is matched up to the corresponding activity as defined in Table 1 above, section 2.3. Current land use is made up of Category B/residential, Category F/warehouse, and Category E/commercial development including office buildings, restaurants, hotels, and motels. In addition, there is the Ivy Creek Greenway trail near State Route 20, a church just southwest of the Hamilton Mill Road interchange, a church just northeast of the SR 53 interchange, cemeteries, Braselton Christian Academy, Duncan Creek Park, and Mill Creek High School that are all Category C. There are also several Category F/retail near the interchanges.

Any area with a building permit prior to project disclosure, which is defined as approval of the NEPA document, is considered planned. Therefore, it is evaluated under the corresponding NAC category of the permit. For this project permits were reviewed though 04-24-2017. During the NEPA reevaluation process the proposed project will be re-examined to determine if any new permits were issued between the date permits were reviewed and the date the NEPA document is approved. If building permits are issued between this time the permitted land use will be studied under the appropriate NAC category and mitigation measures would be studied as required.

Gwinnett County building permits were reviewed online. Barrow and Jackson County building permits were obtained from the county offices. The main findings in the Gwinnett section of the project (Segment 1 to nearly the end of Segment 5) include several large single family residence subdivisions that are obtaining building permits for new residences including Morgan Chase southeast of I-85 on Morgan Road, Turnberry off of Spout Springs Road north of Doc Hughes Road and Retreat at Ashbury Park on Wheeler Road to the southeast of I-85. It was also found that a new hotel is being built in Barrow County in the northeast quadrant of the I-85 at SR 211 interchange.

Improvements proposed as part of PI No. 0013545 are located within several governmental jurisdictions. Permit information was requested via telephone or email from Barrow and Jackson Counties, and the Cities of Braselton, Jefferson, and Pendergrass planning and zoning offices. Responses were received for all requests, except from the City of Pendergrass. Requests for permit information and responses occurred between 4/11/2017 and 4/24/2017. Within the City of Braselton, a hotel was permitted on one parcel, but the location of the building was considered to be beyond the limits of the noise survey, and there were several large warehouse distribution facilities (NAC Category F). These Category F receivers were not included in the analysis. Within Jackson County two parcels were permitted for single family residences within subdivision currently being built out. These two additional residential structures were
included in the analysis. For Barrow County and the remaining cities, either no response was received or confirmation was obtained that no development was currently permitted on the parcels.

Details:

For purposes of noise analysis modeling, study area noise receptors were assigned one of seven different land use or activity categories—Activity Category A through G. These are described in the following paragraphs.

**Activity Category A:** This category includes exterior activities and relates to lands, as stated in 23 CFR Part 772, “on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential for the area to continue to serve its intended purpose.” Some examples of land uses designated as Activity Category A include the Tomb of the Unknown Soldier and a monastery. There are no receptors of this activity category located within the study area.

**Activity Category B:** This category includes exterior activities for single-family and multi-family residences.

There are 999 receivers, representing 1,151 receptors, of this activity category located within the study area.

**Activity Category C:** This category includes exterior activities for Section 4(f) sites and nonresidential public and private facilities that tolerate less noise (e.g., recording studios, amphitheaters, libraries) than Activity Category E (see below).

For cemeteries, parks, and other expansive Category C activities, the number of required receptors shall be determined as follows: 1) determine the typical linear highway frontage of parcels in the surrounding community; and 2) divide the proposed highway frontage length of the Category C site by the amount determined in step 1 above with any remainder counting as an additional receptor.

There are 43 receivers, representing 142 receptors, of this activity category located within the study area.

**Activity Category D:** This category includes interior impacts for Activity Category C facilities that may have a noise-sensitive interior use. An indoor analysis is typically done only after exhausting all outdoor analysis options. In situations where no exterior activities would be affected by the traffic noise, or where the exterior activities are far from or physically shielded from the roadway in a manner that prevents an impact on exterior activities, Activity Category D is typically used as the basis of determining noise impacts.

There are 2 receivers, representing 2 receptors, of this activity category located within the study area.

4NB003 is a movie theater adjacent to I-85 just north of Hamilton Mill Road with no exterior use and 4NB004 is an urgent care facility adjacent to I-85 just north of Hamilton Mill Road with no exterior use.
Table 2: Building Noise Reduction Factors

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Window Condition</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Open</td>
<td>10dB</td>
</tr>
<tr>
<td>Light Frame</td>
<td>Ordinary Sash (closed)</td>
<td>20dB</td>
</tr>
<tr>
<td>Storm Windows</td>
<td></td>
<td>25dB</td>
</tr>
<tr>
<td>Masonry</td>
<td>Single Glazed</td>
<td>25dB</td>
</tr>
<tr>
<td>Masonry</td>
<td>Double Glazed</td>
<td>35 dB</td>
</tr>
</tbody>
</table>

Note: The windows shall be considered open unless there is firm knowledge that the windows are in fact kept closed almost every day of the year.

There are 2 receivers, representing 2 receptors, of this activity category located within the study area. The building types and windows consist of the following:

Table 3: Receiver Reduction Estimates

<table>
<thead>
<tr>
<th>Receiver #</th>
<th>Building Type</th>
<th>Windows</th>
<th>Estimated Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>4NB003, 4NB004</td>
<td>Masonry</td>
<td>Single Glazed</td>
<td>25</td>
</tr>
</tbody>
</table>

Activity Category E: This category includes exterior activities for certain commercial and developed lands (e.g., restaurants, offices, hotels) that are less sensitive to highway noise. Each structure generally was considered one receptor for the purpose of disclosure. For receptors in this category that contain lodging units (e.g., hotels), each room where sleep occurs that has a balcony or ground-level patio was considered one receptor. Multiple receivers for each floor were placed around the hotels to accurately assess noise levels as the receiver distance from the roadway varied. It was assumed each hotel room on each floor of the hotel shares a common noise environment. In the case of hotels or motels, exterior balconies of rented rooms were considered the primary noise sensitive area. There are 34 receivers, representing 119 receptors, of this activity category located within the study area.

Activity Category F: This category includes land use activities that are generally not sensitive to highway noise. No noise analysis is required for this activity category. The 18 receivers representing 18 receptors in Category F were studied and are included for informational purposes only and are not a requirement of 23CRF 772.

Activity Category G: This category addresses future noise levels on undeveloped lands without a building permit. For undeveloped lands without a building permit, noise contours were developed on vacant lands using the TNM. In accordance with 23 CFR Part 772 (772.17) and as outlined in the GDOT Noise Abatement Policy, information is to be provided to local officials “that can help them to be aware of incompatible land uses near state highways.” Large undeveloped lands without permitted/anticipated future development along the project corridor were modeled at 50-feet and then 100-foot intervals from the nearest edge of pavement.

12 large undeveloped sites (Study Area A through Study Area L) where noise conditions are anticipated to change were identified along the corridor. The detailed results of this analysis are provided in Section 3.3.2 (Projected Sound Levels for Undeveloped Land Without a Permit) of this document.
2.5 When Were Field Measurements Taken?

Field measurements were collected on January 27, 2017 from 1 location and on May 16, 2017 at 4 locations within the study area between (time of day 10:08 am - 3:15 pm). These noise monitoring sites are depicted on Figures 1-28 in Attachment C. The sites were chosen to get a diverse array of locations across the entire study area. Noise measurement sites included are near residential dwellings and commercial buildings. Copies of the field notes are provided in Attachment K. Field measurements indicate existing noise levels ranged, at the time measurements were taken, between 69.0 and 78.4 dBA.

Details:

Noise measurements for each site were performed in accordance with procedures described in Measurement of Highway-Related Noise (FHWA, 1996). The measurement on January 27 was recorded using a laboratory calibrated Rion NL-31 sound level meter, the measurements on May 16 were recorded with a laboratory calibrated Bruel & Kjaer 2238 Mediator. All measurements were performed under acceptable weather and street surface conditions consistent with GDOT policy guidelines. These measurements were taken for 15 minutes at each location. The locations of field measurements and the observed sound levels are provided in Table 4.

<table>
<thead>
<tr>
<th>Field Receiver #</th>
<th>Time Range</th>
<th>Figure Location</th>
<th>Field Measurement</th>
<th>TNM Calculation</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver 1 (FM1)</td>
<td>10:08 – 10:23 am</td>
<td>Near residences on Morgan Rd, 72’ from I-85 NB Centerline</td>
<td>74.2</td>
<td>74.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Receiver 2 (FM2)</td>
<td>10:43 – 10:58 am</td>
<td>Near Hamilton Mill Town Center shopping center, 75’ from I-85 NB Centerline</td>
<td>78.4</td>
<td>78.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Receiver 3 (FM3)</td>
<td>11:24 – 11:39 am</td>
<td>Near Bill Cheek Rd and Retreat at Ashbury Park neighborhood, 70’ from I-85 NB Centerline</td>
<td>77.0</td>
<td>79.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Receiver 4 (FM4)</td>
<td>12:01 – 12:16 pm</td>
<td>Near commercial property on Jesse Cronic Rd, 149’ from I-85 NB Centerline</td>
<td>71.9</td>
<td>74.8</td>
<td>2.9</td>
</tr>
<tr>
<td>Receiver 5 (FR-2)</td>
<td>3:00 – 3:15 pm</td>
<td>Near SR 60 overpass, 116’ from I-85 NB Centerline</td>
<td>69.0</td>
<td>71.6</td>
<td>2.6</td>
</tr>
</tbody>
</table>
2.5.1 Was the Model Validated?

The model was validated; all results were within 3dBA. Three Decibels is considered validated since it is the threshold, generally considered perceptible by the human ear.

Details:

Field measurements were compared with TNM-modeled noise levels to confirm the applicability of the model for this analysis. Traffic counts, by vehicle type (cars, medium trucks, and heavy trucks) were taken along the project corridor during each field measurement. In addition, vehicle speeds at or above posted speeds were observed in the location of I-85. Total traffic counts were input into the TNM to determine if the model is accurately predicting sound levels along the corridor. The comparisons of field measurements to modeled levels are shown in Table 4 above. The TNM modeled results for the field measurements indicated existing noise levels between 71.6 and 79.1 dBA.

A difference of approximately three decibels is generally considered acceptable. Because each of the field measurements were within the accepted three-decibel range of the model, the model is considered applicable for use in analysis of noise levels within the study area. Therefore, existing noise levels for the receivers within the study area were calculated with TNM for comparison with the build and no build alternatives.

2.6 How Was the Project Modeled?

Noise levels were calculated using the FHWA TNM 2.5. Input to the model includes the existing and proposed roadway alignment, existing and projected traffic volumes, (based on LOS C levels) using the PM peak hour volumes. Vehicle speeds of 70 mph were used on I-85 and speeds from 35-55 mph were used on all side roads. In the no-build and build models the proposed I-85 at SR 324/Gravel Springs interchange (PI #0012698) was included since this project is expected to be in place prior to 2039.

Details:
Major roadways and sensitive receivers were modeled in TNM by importing MicroStation based roadway design files into the TNM program. Receptor locations, terrain lines, building rows, and existing noise walls were also input into the TNM program using this same method. Figures provided in Attachment C show the locations of the receivers relative to the project study area. Elevations for the TNM model runs were obtained from digital elevation models based on recent survey as well as some outer points determined using USGS elevation data. Lastly, the number of automobiles, medium trucks, and heavy trucks and their associated travel speeds for each modeled roadway segment and year were input into the model. See Model Input Tables in Attachment A.

3. What are the Results of the Noise Model?

Existing (2015) Noise levels range between: 50.6-76.3
No-Build (2039) Noise levels range between: 49.3-77.1
Build (2039) Noise Levels range between: 49.8-77.0
There are **422 receivers, representing 551 receptors**, along the project corridor predicted to be impacted in the build alternative based on approaching/exceeding the NAC and 0 based on a substantial increase. (See Attachment B for TNM Noise Results Output Summary Table and Figures 1-28 in Attachment C)

Details:
Upon completion, noise level estimates at the receivers were compiled in an output summary Table. See Attachment B. Copies of the input and output files from the TNM modeling associated with this analysis are provided in Attachments E to H of this document. Traffic used in the model is provided in Attachment D. See Figures 1-28 in Attachment C for receiver locations.

Table 5 summarizes the number of receptors exceeding their corresponding NAC by activity category.

<table>
<thead>
<tr>
<th>NAC/Threshold</th>
<th>Existing</th>
<th>Build</th>
<th>No Build</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - 57</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B - 67</td>
<td>446</td>
<td>430</td>
<td>373</td>
</tr>
<tr>
<td>C - 67</td>
<td>30</td>
<td>59</td>
<td>51</td>
</tr>
<tr>
<td>D - 52</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E - 72</td>
<td>47</td>
<td>62</td>
<td>62</td>
</tr>
</tbody>
</table>

No receptor sites along the project corridor would experience noise level increases of greater than 15 dBA. Therefore, **no receptors** are considered impacted based on the substantial increase criterion.

### 3.3.2 Projected Sound Levels for Undeveloped Land Without a Permit

In accordance with 23 CFR Part 772 (772.17) and as outlined in the GDOT Noise Abatement Policy (July 2011), information is to be provided to local officials “that can help them to be aware of incompatible land uses near state highways.” At a minimum, this information is to include “an estimation of future design year noise levels at various distances from the edge of the nearest travel lane of the proposed project where future noise levels are within one decibel of the corresponding exterior values shown in [Table 1 (NAC Table) on page 6]” or until the parcel ends.

The data in Table 6 below provides information to aid local officials with jurisdiction over properties in proximity to the project. Large undeveloped lands without permitted/anticipated future development along the project corridor were modeled at 50-feet from the nearest edge of pavement, 100 feet, and then 100 foot intervals. Sites were selected for this analysis at each location along the corridor where noise conditions are anticipated to change.

As previously noted (in section 2.4 on page 7), for the purposes of this project, twelve locations (Study Area A through Study Area L) were identified for this analysis. The locations of these study areas relative to the proposed project are provided in Figures 1 through 28 (see Attachment C). The study areas depicted on the graphics represent large sample areas.

Local officials with jurisdiction over the development of parcels along the project corridor are encouraged to consider the information provided in Table 6 below and Table 1 NAC on page 6 when...
considering future land use and development changes. The information is provided by GDOT to discourage development that would be incompatible with the sound levels that are anticipated along the project corridor at these locations.

### Table 6

**Projected Sound Levels to Aid Local Officials**

<table>
<thead>
<tr>
<th>Study Area</th>
<th>Covers Vacant Parcels Located</th>
<th>50 feet</th>
<th>100 feet</th>
<th>200 feet</th>
<th>300 feet</th>
<th>400 feet</th>
<th>500 feet</th>
<th>600 feet</th>
<th>700 feet</th>
<th>800 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>East of I-85, between I-985 and SR 20</td>
<td>80.4</td>
<td>75.5</td>
<td>69.8</td>
<td>65.8</td>
<td>60.8</td>
<td>61.1</td>
<td>60.6</td>
<td>59.2</td>
<td>57.7</td>
</tr>
<tr>
<td>B</td>
<td>East of I-85, just south of SR 20</td>
<td>66.8</td>
<td>70.1</td>
<td>68.9</td>
<td>66</td>
<td>61.4</td>
<td>60.2</td>
<td>58.8</td>
<td>57.3</td>
<td>56.1</td>
</tr>
<tr>
<td>C</td>
<td>East of I-85, just north of SR 20</td>
<td>77.5</td>
<td>74.2</td>
<td>72.1</td>
<td>64.1</td>
<td>66.4</td>
<td>64.2</td>
<td>63</td>
<td>62.3</td>
<td>60.5</td>
</tr>
<tr>
<td>D</td>
<td>East of I-85, between SR 20 and Gravel Springs Road</td>
<td>70.7</td>
<td>68.6</td>
<td>66.8</td>
<td>65.3</td>
<td>63.4</td>
<td>62</td>
<td>60.7</td>
<td>59.7</td>
<td>58.5</td>
</tr>
<tr>
<td>E</td>
<td>West of I-85, between SR 20 and Gravel Springs Road</td>
<td>74.3</td>
<td>71.9</td>
<td>68.9</td>
<td>66.3</td>
<td>63.9</td>
<td>62</td>
<td>60.4</td>
<td>58.9</td>
<td>57.7</td>
</tr>
<tr>
<td>F</td>
<td>West of I-85, between Gravel Springs Road and Hamilton Mill Road</td>
<td>78.3</td>
<td>73.3</td>
<td>69.2</td>
<td>66.4</td>
<td>65.4</td>
<td>63.7</td>
<td>62.1</td>
<td>60.5</td>
<td>59.1</td>
</tr>
<tr>
<td>G</td>
<td>East of I-85, between Gravel Springs Road and Hamilton Mill Road</td>
<td>76.4</td>
<td>74.9</td>
<td>71.9</td>
<td>68.3</td>
<td>65.5</td>
<td>63.2</td>
<td>61.5</td>
<td>60</td>
<td>59</td>
</tr>
<tr>
<td>H</td>
<td>West of I-85, just north of Hamilton Mill Road</td>
<td>76.3</td>
<td>70</td>
<td>67.2</td>
<td>64.6</td>
<td>62.7</td>
<td>61.2</td>
<td>59.6</td>
<td>58.4</td>
<td>57.3</td>
</tr>
<tr>
<td>I</td>
<td>East of I-85, between Hamilton Mill Road and SR 211</td>
<td>79.7</td>
<td>74.8</td>
<td>70.3</td>
<td>66.7</td>
<td>64.4</td>
<td>62.4</td>
<td>60.7</td>
<td>59.4</td>
<td>58</td>
</tr>
<tr>
<td>J</td>
<td>West of I-85, between Flowery Branch Road overpass and SR 211</td>
<td>76.2</td>
<td>71.2</td>
<td>67.3</td>
<td>64.4</td>
<td>62.3</td>
<td>60.6</td>
<td>59</td>
<td>57.6</td>
<td>56.5</td>
</tr>
<tr>
<td>K</td>
<td>East of I-85, between Flowery Branch Road overpass and SR 211</td>
<td>71.7</td>
<td>71.8</td>
<td>69</td>
<td>66.1</td>
<td>64</td>
<td>62.3</td>
<td>61.2</td>
<td>60.2</td>
<td>59.2</td>
</tr>
<tr>
<td>L</td>
<td>West of I-85, north of between SR 53 and US 129/SR 11</td>
<td>76.5</td>
<td>74.7</td>
<td>72.3</td>
<td>70.6</td>
<td>69.2</td>
<td>68.2</td>
<td>67.1</td>
<td>66.3</td>
<td>65.4</td>
</tr>
</tbody>
</table>

*Distance shown is from roadway edge of pavement*
4. What types of Noise Abatement were considered?

In accordance with 23 CFR Part 772, all impacts need to be studied to determine if abatement measures in the forms of, acquisition of rights-of-way, traffic management, alteration of horizontal and vertical alignments, and structural barriers are feasible and reasonable.

Details:

4.1 Acquisition of rights-of-way/Land Use and Zoning

Land use to create buffer zones or separation between noise sensitive receivers and traffic is considered during the design of a project. One noise abatement measure is the application of land use controls to minimize impacts to future development. In particular, land use controls can be used to create buffer zones. Although GDOT is typically not able to acquire land to create buffer zones, it is sometimes possible to relocate an impacted property outside of the potential noise impact zone. This approach is sometimes applied to mobile residence parks where relocation of the residences to a location outside the impact zone is possible. Typically, this approach would be made in consultation with the owner of the mobile residence. However, none of the receivers to be impacted are of the type that such relocation is practical. Therefore, such action is not appropriate for consideration for this project.

Constructive land use or zoning designations to create a “buffer” between developed areas and roads are most effective prior to development of areas adjacent to the road. The results of this noise study will be sent to local officials for use in future compatible land use planning.

4.2 Traffic Management

Traffic management techniques such as the restriction of truck traffic, use by only certain types of vehicles, restricting use to certain times of the day, traffic calming devices, and reduction in operating speeds were considered for noise abatement measures to the impacted receivers. In many instances, such as this, construction is taking place on a designated state route/Interstate where prohibition of certain types of vehicles and reductions in speed would not be consistent with the roadway’s intended purpose.

4.3 Alignment Alterations

A change in alignment was not considered to reduce noise impacts. Based on the level of development along I-85, an alignment shift to reduce impacts to these receivers would likely result in additional impacts to other receivers. In addition, a shift significant enough to achieve a required reduction level in noise impacts could result in displacements. This project is on an established roadway therefore, a shift in alignment is not considered a reasonable noise abatement measure.

4.4 Structural Barriers

The use of structural barriers (earth berms and freestanding walls) must be considered for impacted receivers. The optimum situation for the use of freestanding noise barriers exists when a dense
concentration of impacted sites are located directly adjacent to (and parallel with) the highway right-of-way. In these instances, one barrier can protect many people at a relatively low cost per impacted site.

Barriers are considered feasible when:

Feasible

- **Noise reduction**: a calculated noise reduction of at least 5 dB(A) must be achievable for a minimum of one impacted receptor. Each noise receptor which receives a 5 dB(A) reduction (whether classified as impacted or not) is considered to be a benefited receptor.

- **Constructability**: a noise abatement measure must be able to be constructed using reliable and common engineering practices.

- **Safety and Maintainability**: an exterior noise abatement measure should conform to the AASHTO Green Book and Roadside Design Guide and should be accessible to maintenance personnel and not prevent access to other highway appurtenances (e.g., drainage structures). The maximum barrier height that can feasibly be maintained is 30 feet.

- **Access**: an abatement measure must allow sufficient access to adjacent properties.

### Table 7a
Noise Wall Feasibility Evaluations, PI 110610

<table>
<thead>
<tr>
<th>Wall</th>
<th>Receiver # / # of Receptors Represented</th>
<th>Property Identification</th>
<th>Barrier Dimensions</th>
<th>Does Wall Achieve a 5dBA Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1*</td>
<td>16/16</td>
<td>East of I-85, Residences in Willow Bend subdivision</td>
<td>451 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>1-2*</td>
<td>82/82</td>
<td>East of I-85, Residences in The Village of Rock Springs and Sentinel Ridge subdivisions</td>
<td>742 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>2-1</td>
<td>15/63</td>
<td>East of I-85, Summer Park Apartments and Residences in Old Ivy and Crestworth Village subdivisions</td>
<td>4543 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>2-2</td>
<td>4/19</td>
<td>West of I-85, Ivy Creek Greenway</td>
<td>1704 feet by 30 feet</td>
<td>No</td>
</tr>
<tr>
<td>3-1*</td>
<td>37/37</td>
<td>East of I-85,</td>
<td>1382 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>Wall</td>
<td>Receiver # / # of Receptors Represented</td>
<td>Property Identification</td>
<td>Barrier Dimensions</td>
<td>Does Wall Achieve a 5dBA Reduction</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------</td>
<td>-------------------------</td>
<td>--------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>3-2</td>
<td>1/1</td>
<td>Eastern Mill Creek Plantation subdivision</td>
<td>373 feet by 30 feet</td>
<td>No</td>
</tr>
<tr>
<td>3-3</td>
<td>2/2</td>
<td>West of I-85, Single Residence on Gravel Springs Road</td>
<td>550 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>3-4</td>
<td>2/2</td>
<td>West of I-85, Residence just south of Gravel Springs Rd.</td>
<td>450 feet by 30 feet</td>
<td>No</td>
</tr>
<tr>
<td>3-5</td>
<td>14/14</td>
<td>Stonegate at Ivy Creek subdivision and single residence on Camp Branch Rd.</td>
<td>2296 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>3-6*</td>
<td>60/60</td>
<td>West of I-85, Residences in Hamilton Pointe and Hamilton Creek Station subdivisions, Victory World Church, isolated residence on Pucketts Mill Road</td>
<td>1091 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>4-1</td>
<td>6/18</td>
<td>East of I-85, Duncan Creek Park</td>
<td>2450 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>4-2</td>
<td>43/43</td>
<td>West of I-85, Beyers Landing and Turnberry subdivisions and single residences</td>
<td>2391 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>Wall</td>
<td>Receiver # / # of Receptors Represented</td>
<td>Property Identification</td>
<td>Barrier Dimensions</td>
<td>Does Wall Achieve a 5dBA Reduction</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>4-3</td>
<td>70/106</td>
<td>East of I-85, single residence on Spout Springs Road, Millcrest Manor and Flowery Branch Crossing subdivisions and Mill Creek High School</td>
<td>5862 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>4-4</td>
<td>85/87</td>
<td>West of I-85, Watermill and Oakpointe subdivisions</td>
<td>3998 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>4-5</td>
<td>106/106</td>
<td>West of I-85, Willow Leaf subdivision</td>
<td>3348 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>4-6</td>
<td>21/21</td>
<td>East of I-85, Pilgrim Acres subdivision</td>
<td>1831 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>5-1</td>
<td>38/38</td>
<td>East of I-85, single residence on Bill Cheek Road and Retreat at Ashbury subdivision</td>
<td>2600 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>5-2</td>
<td>9/24</td>
<td>West of I-85, Legends at Chateau Elan subdivision and Legends golf course</td>
<td>3113 feet by 30 feet</td>
<td>Yes</td>
</tr>
<tr>
<td>5-3</td>
<td>14/14</td>
<td>Savannah Oaks subdivision</td>
<td>2143 feet by 30 feet</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*These walls were considered as extensions in order to potentially provide abatement to impacted

Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
receivers near or behind existing noise barriers being built under PI 110600.

Receiver 1NB014 was studied with Barrier 1-1, an extension of 110600Barrier 2-1 and at a 30-foot height the receiver did not get a 5dBA reduction.

Receiver 2SB021 was studied by placing Barrier 2-2 along the I-85 SB collector distributor road at SR 20. At a 30-foot height the barrier would not provide a 5dBA reduction for Receiver 2SB021.

Receiver 3NB038 was studied by placing Barrier 3-2 on the I-85 NB off-ramp to Gravel Springs Road shoulder; however, a 5dBA reduction could not be obtained utilizing a 30-foot barrier. The barrier would not block noise from nearby Gravel Springs Road. Therefore, this barrier is not feasible to construct (see Table 7a and Attachment C).

Receiver 3SB003 was studied by placing Barrier 3-4 on the I-85 SB off-ramp to Gravel Springs Road shoulder; however, a 5dBA reduction could not be obtained utilizing a 30-foot barrier. The barrier would not block noise from nearby Gravel Springs Road. Therefore, this barrier is not feasible to construct (see Table 7a and Attachment C).

All other Receivers appear to be feasible based on the above criteria. Therefore, they are being studied for reasonableness (see Table 7a and Attachment C).

### Table 7b
Noise Wall Feasibility Evaluations, PI 0013545

<table>
<thead>
<tr>
<th>Wall</th>
<th>Receiver # / (#) of Receptors Represented</th>
<th>Property Identification</th>
<th>Barrier Dimensions</th>
<th>Does Wall Achieve a 5dBA Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4/(1)</td>
<td>Office Building located north of SR 211 and east of I-85</td>
<td>284 feet long 12 to 30 feet high</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>6/(1), 7/(1)</td>
<td>Residential structures in the southeast quadrant of I-85 and Jesse Cronic Road</td>
<td>488 feet long 14 to 22 feet high</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>14/(1), 15/(1), 16/(13), 17/(15), 18/(16), 19/(16), 20/(1), 21/(4), 22/(2),</td>
<td>Residential structures, Braselton Christian Academy, and a cemetery along Zion Church Road, north of SR 53 and east of I-85</td>
<td>1914 feet long 14 to 18 feet high</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>96-106/(1 each), 111-123/(1 each), 128-134/(1 each), 144-155/(1 each), 159-167/(1 each), 170-177/(1 each), 179-197/(1 each), 200-257/(1 each)</td>
<td>Residential structures within a single subdivision, located north of SR 53 and west of I-85</td>
<td>6385 feet long 14 feet high</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>26/(1)</td>
<td>Residential structure located north of SR 53, east of I-85, and west of SR 124</td>
<td>791 feet long 16 to 26 feet high</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>P.I. Number(s)</td>
<td>Residential Structures</td>
<td>Length</td>
<td>Height</td>
</tr>
<tr>
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</tr>
<tr>
<td>6</td>
<td>27/(1), 28/(1), 29/(1)</td>
<td>Residential structures east of I-85, at the end of Tom White Road</td>
<td>910 feet long</td>
<td>18 to 24 feet high</td>
</tr>
<tr>
<td>7</td>
<td>30/(1)</td>
<td>Residential structure located in the southeast quadrant of I-85 and SR 60</td>
<td>680 feet long</td>
<td>24 to 30 feet high</td>
</tr>
<tr>
<td>8</td>
<td>92/(1), 93/(1)</td>
<td>Residential structures located in the northwest quadrant of SR 60 and McNeil Road</td>
<td>615 feet long</td>
<td>16 to 30 feet high</td>
</tr>
<tr>
<td>9</td>
<td>82-91/(1 each)</td>
<td>Residential structures located in a subdivision north of SR 60, west of I-85, and east of McNeal Road, at the end of Margie Court and Lamar Lane</td>
<td>1598 feet long</td>
<td>10 to 18 feet high</td>
</tr>
<tr>
<td>10*</td>
<td>64-69/(1 each), 71-81/(1 each), 259-261/(1 each)</td>
<td>Residential structures located in the Shadow Brook subdivision, west of I-85 and east of McNeal Road</td>
<td>3081 feet long</td>
<td>14 to 26 feet high</td>
</tr>
<tr>
<td>11</td>
<td>32-37/(1 each)</td>
<td>Residential structures at the end of Stoneview Drive, east of I-85 and west of SR 332</td>
<td>1899 feet long</td>
<td>30 feet high</td>
</tr>
<tr>
<td>12</td>
<td>38/(1)</td>
<td>Residential structure in the southeast quadrant of I-85 and SR 332</td>
<td>714 feet long</td>
<td>12 to 16 feet high</td>
</tr>
<tr>
<td>13</td>
<td>62/(1)</td>
<td>Residential structure in the southwest quadrant of I-85 and SR 332</td>
<td>362 feet long</td>
<td>28 feet high</td>
</tr>
<tr>
<td>14</td>
<td>39-42/(1 each), 46/(1)</td>
<td>Residential structures along Katie Spring Lane, east of I-85 and west of Old Pendergrass Road</td>
<td>1000 feet long</td>
<td>26 to 30 feet high</td>
</tr>
<tr>
<td>15</td>
<td>47-50/(1 each), 52-54/(1 each)</td>
<td>Residential structures at the end of Whirlaway Street and Lewis Sailors Road, east of I-85 and west of Old Pendergrass Road</td>
<td>2399 feet long</td>
<td>16 to 28 feet high</td>
</tr>
<tr>
<td>17</td>
<td>59(1)</td>
<td>Residential structure east of I-85 and north of SR 11/US 129</td>
<td>521 feet long</td>
<td>12 to 18 feet high</td>
</tr>
</tbody>
</table>

*Initially Walls 10 and 12 were analyzed separately. However, based on permitted land use obtained from the county, it was determined that combining the walls under a single analysis was more practical. The walls were combined as Wall 10, and the Wall 12 label was deleted from the analysis.
All 17 walls appear to be feasible based on the above criteria. At least one impacted receiver can achieve a 5 dB reduction from the proposed wall, are constructible, do not exceed 30 feet, and do not prevent access to any impacted receivers. Therefore, they are being studied for reasonableness. See Table 7b and Attachment C.

**Reasonable**

The below criteria are considered for each feasible noise abatement measure to evaluate reasonableness. The first two must be satisfied before contacting property owners and residents:

- **Noise Reduction:** at least one benefited receptor must receive a minimum noise level reduction of 7 dB(A) – i.e., the noise reduction design goal.
- **Cost Effectiveness:** Using a $25 per square foot cost for the required noise barrier, the total cost must not exceed a $55,000 average allowance per benefited receptor.
- **Property Owners and Residents:** The decision to provide abatement will be made in collaboration with property owners and tenants of a benefited receptor. A noise barrier will only be constructed if at a minimum 50% plus one of the respondents vote in favor of noise abatement.

A preliminary evaluation was conducted for 16 noise walls for PI 110610 and 17 noise walls for PI 0013545. The proposed noise wall evaluations for PI 110610 are presented in Table 8a and the noise walls for PI 0013545 are presented in Table 8b. Their locations are shown on Figures 1 through 28.

### Table 8a

<table>
<thead>
<tr>
<th>Wall</th>
<th>Barrier Dimensions</th>
<th>Wall distance from center line</th>
<th>List of Feasible Receivers (# of Receptors Represented)</th>
<th>Decibel Reduction</th>
<th>Property Identification</th>
<th>Reasonable Cost</th>
<th>Estimated Cost</th>
<th>Reasonable Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1**</td>
<td>43x26, 50x28, 307x30, 50x28</td>
<td>61’</td>
<td>1NB012(1)</td>
<td>5.9</td>
<td>East of I-85, Residences in Willow Bend subdivision</td>
<td>$110,000</td>
<td>$328,688</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1NB013(1)</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2**</td>
<td>91x22</td>
<td>70’</td>
<td>1NB074(1)</td>
<td>9.2</td>
<td>East of I-85,</td>
<td>$330,000</td>
<td>$499,605</td>
<td>No</td>
</tr>
<tr>
<td>Wall</td>
<td>Barrier Dimensions</td>
<td>Wall distance from center line</td>
<td>List of Feasible Receivers (# of Receptors Represented)</td>
<td>Decibel Reduction</td>
<td>Property Identification</td>
<td>Reasonable Cost</td>
<td>Estimated Cost</td>
<td>Reasonable Yes/No</td>
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</tr>
<tr>
<td>2-1</td>
<td>50x24, 24x26, 50x28, 50x30, 434x28, 50x26</td>
<td>40'</td>
<td>1NB075(1)</td>
<td>8.9</td>
<td>Residences in The Village of Rock Springs and Sentinel Ridge subdivisions</td>
<td>$2,585,000</td>
<td>$3,029,420</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>1565x30, 50x28, 300x26, 50x28, 1211x30, 50x28, 50x26, 167x24, 100x22, 500x20, 200x18, 300x16</td>
<td>40'</td>
<td>2NB001(4)</td>
<td>5.4</td>
<td>East of I-85, Summer Park Apartments and Residences in Old Ivy and Crestworth Village subdivisions</td>
<td>$330,000</td>
<td>$858,690</td>
<td>No</td>
</tr>
<tr>
<td>3-1**</td>
<td>150x18, 100x20, 100x22, 288x24</td>
<td>40'</td>
<td>3NB001(1)</td>
<td>6.8</td>
<td>East of I-85, Residences in Mill Creek Plantation subdivision</td>
<td>$330,000</td>
<td>$858,690</td>
<td>No</td>
</tr>
<tr>
<td>Wall</td>
<td>Barrier Dimensions</td>
<td>Wall distance from center line</td>
<td>List of Feasible Receivers (# of Receptors Represented)</td>
<td>Decibel Reduction</td>
<td>Property Identification</td>
<td>Reasonable Cost</td>
<td>Estimated Cost</td>
<td>Reasonable Yes/No</td>
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</tr>
<tr>
<td>3-3</td>
<td>50x26, 50x28, 240x30</td>
<td>220’</td>
<td>3NB008(1)</td>
<td>7.0</td>
<td>West of I-85, Residence just south of Gravel Springs Rd.</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$55,000</td>
<td>$245,047</td>
<td>No</td>
</tr>
<tr>
<td>3-5</td>
<td>150x22, 150x24, 106x26, 196x28, 1145x30, 450x28, 50x26</td>
<td>43’</td>
<td>3SB005(1)</td>
<td>6.3</td>
<td>Stonegate at Ivy Creek subdivision and single residence on Camp Branch Rd.</td>
<td>$605,000</td>
<td>$1,619,451</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3SB006(1)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>3SB007(1)</td>
<td>8.6</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>3SB008(1)</td>
<td>7.9</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>3SB009(1)</td>
<td>8.8</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>3SB010(1)</td>
<td>7.3</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>3SB011(1)</td>
<td>7.3</td>
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<td></td>
<td></td>
<td></td>
<td>3SB012(1)</td>
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<tr>
<td></td>
<td></td>
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<td>3SB013(1)</td>
<td>5.0</td>
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<td>3SB016(1)</td>
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<tr>
<td>Wall</td>
<td>Barrier Dimensions</td>
<td>Wall distance from center line</td>
<td>List of Feasible Receivers (# of Receivers Represented)</td>
<td>Decibel Reduction</td>
<td>Property Identification</td>
<td>Reasonable Cost</td>
<td>Estimated Cost</td>
<td>Reasonable Yes/No</td>
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</tr>
<tr>
<td>3-6**</td>
<td>350x16, 200x18, 50x20, 50x22, 100x24, 300x26, 41x24</td>
<td>44’</td>
<td>3SB019(1)</td>
<td>7.3</td>
<td>West of I-85, Residences in Hamilton Pointe and Hamilton Creek Station subdivisions, Victory World Church, isolated residence on Puckett’s Mill Road</td>
<td>$495,000</td>
<td>$562,040</td>
<td>Yes</td>
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<td></td>
<td></td>
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<td>3SB020(1)</td>
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<td>3SB025(1)</td>
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</tr>
<tr>
<td>4-1</td>
<td>50x8, 50x10, 100x12,</td>
<td>46’</td>
<td>4NB005(3)</td>
<td>7.9</td>
<td>East of I-85, Duncan Creek Park</td>
<td>$990,000</td>
<td>$924,991</td>
<td>Yes</td>
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<td>4NB006(3)</td>
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<td>4NB007(3)</td>
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<td>4NB008(3)</td>
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<td>4NB009(3)</td>
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<tr>
<td>Wall Dimensions</td>
<td>Wall distance from center line</td>
<td>List of feasible receivers (# of receptors represented)</td>
<td>Decibel reduction</td>
<td>Property identification</td>
<td>Reasonable cost</td>
<td>Estimated cost</td>
<td>Reasonable Yes/No</td>
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</tr>
<tr>
<td>50x14, 50x16, 50x18, 50x20, 50x22, 50x24, 50x26, 50x28, 350x30, 50x28, 200x26, 100x24, 50x22, 50x20, 50x18, 250x16</td>
<td>50’</td>
<td>4NB0010(3)</td>
<td>5.6</td>
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<td>50x26, 50x28, 890x30, 100x28, 500x30, 150x28, 100x26, 100x24, 50x22,</td>
<td>50’</td>
<td>4SB003(1) 4SB005(1) 4SB006(1) 4SB007(1) 4SB008(1) 4SB009(1) 4SB010(1) 4SB011(1) 4SB012(1) 4SB013(1)</td>
<td>5.2, 5.0, 8.6, 9.5, 11.0, 12.2, 11.6, 11.2, 11.5, 11.3</td>
<td>West of I-85, Beyers Landing and Turnberry subdivisions and single residences on Doc Hughes Rd.</td>
<td>$1,980,000</td>
<td>$1,608,094</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Wall Dimensions</td>
<td>Wall distance from center line</td>
<td>List of Feasible Receivers (# of Receptors Represented)</td>
<td>Decibel Reduction</td>
<td>Property Identification</td>
<td>Reasonable Cost</td>
<td>Estimated Cost</td>
<td>Reasonable Cost Yes/No</td>
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<tr>
<td>150x20, 50x18, 100x16, 50x14, 50x12</td>
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<td>4SB014(1)</td>
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<td>4SB015(1)</td>
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<tr>
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<td></td>
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County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
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Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545

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**List of Feasible Receivers (\# of Receptors Represented)**

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*Note: Closest part of wall measured from I-85 NB or I-85 SB centerline, whichever is nearest. See sheets 1 through 28 in Attachment C.

**Feasible receivers shown are only additional receivers that do not receive abatement from the existing barrier.**

Proposed barrier wall #1-1 is located to the east of I-85 as an extension to PI 110600 Barrier 2-1 and would begin approximately 1.02 miles north of I-985 and end 1.26 miles south of SR 20. Barrier Wall #1-1 would be located approximately 60 feet from the center line, would be approximately 451 feet in length, and heights would vary from 26 to 30 feet. The barrier would provide abatement for 2 additional receptors which allows for a maximum cost of $110,000 compared to an actual cost of $328,688 so the barrier would not be reasonable.

Proposed barrier wall #1-2 is located to the east of I-85 as an extension to PI 110600 Barrier 2-2 and would begin approximately 1.91 miles north of I-985 and end 1759 feet south of SR 20. Barrier Wall #1-2 would be located approximately 70 feet from the center line, would be approximately 742 feet in length, and heights would vary from 22 to 30 feet. The barrier would provide abatement for 6 additional receptors which allows for a maximum cost of $330,000 compared to an actual cost of $499,605 so the barrier would not be reasonable.

Proposed barrier wall #2-1 is located to the east of I-85 and would begin approximately 1,631 feet north of SR 20 and end 2.24 miles south of Gravel Springs Road. Barrier Wall #2-1 would be located approximately 40 feet from the center line, would be approximately 4,543 feet in length, and heights would vary from 16 to 30 feet. The barrier would provide abatement for 47 receptors which allows for a maximum cost of $2,585,000 compared to an actual cost of $3,029,400 so the barrier would not be reasonable.

Proposed barrier wall #3-1 is located to the east of I-85 as an extension to PI 110600 Barrier 4-1 and would begin approximately 1.89 miles north of SR 20 and end 3,010 feet south of Gravel Springs Road. Barrier Wall #3-1 would be located approximately 43 feet from the center line, would be approximately 1,382 feet in length, and heights would vary from 18 to 30 feet. The barrier would provide abatement for 6 additional receptors which allows for a maximum cost of $330,000 compared to an actual cost of $858,690 so the barrier would not be reasonable.
Proposed barrier wall #3-3 is located to the west of I-85 adjacent to the proposed Gravel Springs Road on-ramp to I-85 SB and would begin approximately 2.57 miles north of SR 20 and end 110 feet south of Gravel Springs Road. Barrier Wall #3-3 would be located approximately 220 feet from the center line, would be approximately 500 feet in length, and heights would vary from 16 to 24 feet. The barrier would provide abatement for 1 receptor which allows for a maximum cost of $55,000 compared to an actual cost of $245,047 so the barrier would not be reasonable.

Proposed barrier wall #3-5 is located to the west of I-85 and would begin approximately 1,105 feet north of Gravel Springs Road and end 1.20 miles south of Hamilton Mill Road. Barrier Wall #3-5 would be located approximately 43 feet from the center line, would be approximately 2,296 feet in length, and heights would vary from 22 to 30 feet. The barrier would provide abatement for 11 receptors which allows for a maximum cost of $605,000 compared to an actual cost of $1,619,451 so the barrier would not be reasonable.

Proposed barrier wall #3-6 is located to the west of I-85 and would begin approximately 4,375 feet north of Gravel Springs Road and end 4,265 feet south of Hamilton Mill Road. Barrier Wall #3-6 would be located approximately 43 feet from the center line, would be approximately 1,091 feet in length, and heights would vary from 16 to 26 feet. The barrier would provide abatement for 9 receptors which allows for a maximum cost of $495,000 compared to an actual cost of $562,040 so the barrier would not be reasonable.

Proposed barrier wall #4-1 is located to the east of I-85 and would begin approximately 2,750 feet north of Hamilton Mill Road and end 4,768 south of Spout Springs Road. Barrier Wall #4-1 would be located approximately 46 feet from the center line, would be approximately 1,700 feet in length, and heights would vary from 8 to 30 feet. The barrier would provide abatement for 18 receptors which allows for a maximum cost of $990,000 compared to an actual cost of $924,991 so the barrier would be feasible and reasonable. A design was tested to attempt to get 7.0 dBA abatement at all impacted receivers but was not reasonable. A reduction in barrier size allowed the barrier to become reasonable but impacted receiver 4NB009 only received 6.8 dBA of abatement.

Proposed barrier wall #4-2 is located on the west side of I-85 and would begin approximately 7,230 feet north of Hamilton Mill Road and end 25 feet south of Spout Springs Road. Barrier Wall #4-2 would be located approximately 50 feet from the center line, would be approximately 2,391 in length and heights would vary from 12 to 30 feet. The barrier heights were refined to reduce cost while still maintaining at least 7.0 dBA of abatement at all impacted receptors. The barrier would provide abatement for 36 receptors which allows for a maximum cost of $1,980,000 compared to an actual cost of $1,608,094 so the barrier would be reasonable.

Proposed barrier wall #4-3 is located on the east side of I-85 and would begin approximately 1,150 feet north of Spout Springs Road and end 62 feet south of Flowery Branch Road. Barrier Wall #4-3 would be located approximately 47 feet from the center line, would be approximately 4,763 in length and heights would vary from 18 to 24 feet. A longer barrier was reviewed to attempt to provide abatement for impacted receiver 4NB014 but this design was found not to be reasonable. Barrier heights were refined to reduce cost but still provide at least 7.0 dBA of abatement to nearly all impacted receptors. It was found that Receiver 4NB050 was not able to get 7.0 dBA of abatement even with a 30’ max height barrier design, this receiver however would still receive abatement greater than 5.0 dBA with the proposed barrier design. The barrier would provide abatement for 102 receptors which allows for a maximum cost of $5,610,000 compared to an actual cost of $2,498,157 so the barrier would be reasonable.
Proposed barrier wall #4-4 is located on the west side of I-85 and would begin less than 100 feet north of Spout Springs Road and end 1899’ south of Flowery Branch Road. Barrier Wall #4-4 would be located approximately 51 feet from the center line, would be approximately 3,998 in length and heights would vary from 16 to 30 feet. The barrier height was refined to reduce cost while still maintaining at least 7.0 dBA of abatement at all impacted receptors. The barrier would provide abatement for 74 receptors which allows for a maximum cost of $4,070,000 compared to an actual cost of $2,804,497 so the barrier would be reasonable.

Proposed barrier wall #4-5 is located on the west side of I-85 and would begin approximately 30 feet north of Flowery Branch Road and end 2.89 miles south of SR 211. Barrier Wall #4-5 would be located approximately 49 feet from the center line, would be approximately 2,434 in length and heights would vary from 22 to 30 feet. The barrier height and length was refined to reduce cost while still maintaining at least 7.0 dBA of abatement except for receivers 4SB132 which would not receive 7.0 dBA even with a 30’ height barrier. The barrier would provide abatement for 98 receptors which allows for a maximum cost of $5,390,000 compared to an actual cost of $1,798,154 so the barrier would be reasonable.

Proposed barrier wall #4-6 is located on the east side of I-85 and would begin approximately 75 feet north of Flowery Branch Road and end 3 miles south of SR 211. Barrier Wall #4-6 would be located approximately 50 feet from the center line, would be approximately 1,781 in length and heights would vary from 14 to 26 feet. The barrier height and length was refined to reduce cost while still maintaining at least 7.0 dBA of abatement at all impacted receivers. The barrier would provide abatement for 19 receptors which allows for a maximum cost of $1,045,000 compared to an actual cost of $1,021,905 so the barrier would be reasonable.

Proposed barrier wall #5-1 is located on the east side of I-85 and would begin approximately 5,000 feet north of Flowery Branch Road and end 1.92 miles south of SR 211. Barrier Wall #5-1 would be located approximately 45 feet from the center line, would be approximately 2,250 in length and heights would vary from 14 to 24 feet. The barrier height and length was refined to reduce cost while still maintaining at least 7.0 dBA of abatement at all impacted receivers. The barrier would provide abatement for 38 receptors which allows for a maximum cost of $2,090,000 compared to an actual cost of $1,077,560 so the barrier would be reasonable.

Proposed barrier wall #5-2 is located on the west side of I-85 and would begin approximately 1.72 miles north of Flowery Branch Road and end 1.13 miles south of SR 211. Barrier Wall #5-2 would be located approximately 50 feet from the center line, would be approximately 2,664 in length and heights would vary from 16 to 30 feet. The barrier would provide abatement for 21 receptors which allows for a maximum cost of $1,155,000 compared to an actual cost of $1,591,979. The barrier height and length was refined to reduce cost but the barrier was still found not to be reasonable.

Proposed barrier wall #5-3 is located on the east side of I-85 and would begin approximately 2.22 miles north of Flowery Branch Road and end 3,863 feet south of SR 211. Barrier Wall #5-3 would be located approximately 116 feet from the center line, would be approximately 1,593 in length and heights would vary from 24 to 30 feet. The barrier would provide abatement for 8 receptors which allows for a maximum cost of $440,000 compared to an actual cost of $1,416,753. The barrier height and length was refined to reduce cost but was still found not to be reasonable.
### Table 8b
Noise Wall Reasonability Evaluations, PI 0013545

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<th>Wall</th>
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<th>Decibel Reduction</th>
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<th>Reasonable Cost</th>
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Residential structures within a single subdivision, located north of SR 53 and west of I-85

Summary:
- 6385 feet long
- 24 to 30 feet high
- 140 feet wide
- Cost: $7,205,000
- Value: $4,698,854
- Status: Yes

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Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
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- **Project Name:** I-85 Widening  
- **County:** Gwinnett, Barrow, Jackson  
- **P.I. Number(s):** 110610 and 0013545  
- **Project:** 6385 feet long, 24 to 30 feet high  
- **140 feet**  
- **Description:** Residential structures within a single subdivision, located north of SR 53 and west of I-85  
- **Cost:** $7,205,000  
- **Cost:** $4,698,854  
- **Yes**
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4 | 6385 feet long | 140 feet |
24 to 30 | Residential structures within a single subdivision, located north of | $7,205,000 | $4,698,854 | Yes |

Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
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Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
<p>|   | long 24 to 30 feet high | 253(1) | 6.8 | Residential structures within a single subdivision, located north of SR 53 and west of I-85 |
|   |                       | 254(1) | 6.6 | |
|   |                       | 255(1) | 6.3 | |
|   |                       | 256(1) | 6.1 | |
|   |                       | 257(1) | 5.7 | |
| 5 | 1005 feet long 28 to 30 feet high | 25(1) | 5.4 | Residential structure located north of SR 53, east of I-85, and west of SR 124 |
|   |                       | 26(1) | 7.0 | $110,000 $725,242 No |
| 6 | 1389 feet long 26 to 28 feet high | 27(1) | 7.0 | Residential structures east of I-85, at the end of Tom White Road |
|   |                       | 28(1) | 5.4 | $110,000 $914,299 No |
| 7 | 680 feet long 24 to 30 feet high | 30(1) | 8.5 | Residential structures located in the northwest quadrant of SR 60 and McNeil Road |
|   |                       | 92(1) | 7.4 | $55,000 $433,802 No |
|   |                       | 93(1) | 7.2 | |
| 8 | 1206 feet long 30 feet high | 83(1) | 5 | Residential structures located in the northwest quadrant of SR 60 and McNeil Road |
|   |                       | 84(1) | 7.9 | $110,000 $904,570 No |
|   |                       | 85(1) | 9.6 | |
|   |                       | 86(1) | 6.4 | |
|   |                       | 87(1) | 5.4 | |
|   |                       | 88(1) | 5 | |
|   |                       | 89(1) | 7.6 | |
|   |                       | 90(1) | 5 | |
| 9 | 1150 feet long 8 to 18 feet high | 135 feet | 5 | Residential structures located in a subdivision north of SR 60, west of I-85, and east of McNeal Road, at the end of Margie Court and Lamar Lane |
|   |                       | 83(1) | 5 | $440,000 $439,964 Yes |
|   |                       | 84(1) | 7.9 | |
|   |                       | 85(1) | 9.6 | |
|   |                       | 86(1) | 6.4 | |
|   |                       | 87(1) | 5.4 | |
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</tr>
<tr>
<td>16</td>
<td>2109 feet long</td>
<td>145 feet</td>
<td>48(1)</td>
<td>7.5</td>
<td>Residential structures at the end of Whirlaway Street and Lewis</td>
<td>$275,000</td>
<td>$1,013,623</td>
<td>No</td>
</tr>
<tr>
<td>49(1)</td>
<td>9.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50(1)</td>
<td>6.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
Of the 17 barriers analyzed for PI 0013545 under the reasonability criteria, three (Noise Barriers 3, 4, 9) met the criteria for reasonability; at least one receptor achieved a minimum of a 7 dB reduction, and the proposed cost was $55,000 or less per benefited receptor. The remaining noise barriers did not meet the benefitted cost criteria, and are therefore not considered reasonable abatement alternatives.

Noise Barrier 3 is currently designed adjacent to the existing right-of-way (ROW), approximately 145 feet from the centerline of the proposed alternative. The barrier is located on the east side of I-85, beginning approximately 700 feet north of SR 53 adjacent to the I-85 northbound on ramp. The proposed wall is approximately 2092 feet long and ranges in height from 12 to 28 feet.

Noise Barrier 4 is currently designed adjacent to the existing ROW, approximately 140 feet from the centerline of the proposed alternative. The barrier is located on the west side of I-85, beginning approximately 1,500 feet north of SR 53. The proposed wall is approximately 6385 feet long and ranges in height from 24 to 30 feet.

Noise Barrier 9 is currently designed adjacent to the existing ROW, approximately 135 feet from the centerline of the proposed alternative. The barrier is located on the west side of I-85, beginning approximately 2,800 feet north of SR 60. The proposed wall is approximately 1150 feet long and ranges in height from 8 to 18 feet.

### 4.4.1 Parallel Noise Barrier Analysis

The FHWA *Highway Noise Barrier Design Handbook* (FHWA, 2000) defines parallel noise barriers as two barriers which face each other on opposite sides of a roadway. Sound reflected between the reflective parallel noise barriers may cause degradation in each barrier’s performance due to multiple reflections that diffract over the individual noise barriers.

Table 9 provides a guideline of three general width-to-height (W/H) ratio ranges and the corresponding noise barrier insertion-loss degradation. The W/H ratio is used to determine if there is potential for sound degradation due to parallel noise barriers. This ratio is derived from the distance between the two parallel noise barriers and their average height. A 10:1 ratio or better will result in imperceptible degradation in performance.
Table 9
Guidelines for Categorizing Parallel Noise Barrier Sites
Based on the Width-to-Height Ratio

<table>
<thead>
<tr>
<th>Width-to-Height Ratio</th>
<th>Maximum $\Delta$IL in dBA</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10:1</td>
<td>3 or greater</td>
<td>Action required to minimize Noise Barrier degradation</td>
</tr>
<tr>
<td>10:1 to 20:1</td>
<td>0 to 3</td>
<td>At most, degradation barely perceptible; no action required in most instances</td>
</tr>
<tr>
<td>Greater than 20:1</td>
<td>No measurable degradation</td>
<td>No action required</td>
</tr>
</tbody>
</table>

Note: $\Delta$IL = insertion-loss degradation.

A review of the I-85 Express Lanes Extension study area identified noise barrier segments along the project corridor that will be parallel. The following proposed noise barriers are parallel and were reviewed:

- Noise Barriers 4-3 and 4-4
- Noise Barriers 4-5 and 4-6

I-85 Parallel Barrier Analysis Findings
A review of the two sets of parallel I-85 noise barriers determined that both will have a W/H ratio of less than 10:1. A ratio less than 10:1 warrants concern for degradation of noise barrier acoustic effectiveness.

Noise Barrier 4-3 is proposed along the NB side of I-85 and 4-4 along the SB side of I-85 between Hamilton Mill Road and SR 211. For Noise Barriers 4-3 and 4-4 there is an approximately 3,998 foot long section where the noise barriers are parallel. The noise barriers are 147 to 284 feet apart with an average of 211’ in this section and the average barrier heights over this section of roadway would be approximately 25 feet which results in a W/H ratio under 10:1.

Noise Barrier 4-6 is proposed along the NB side of I-85 and 4-5 along the SB side of I-85 between Hamilton Mill Road and SR 211. For Noise Barriers 4-5 and 4-6 there is an approximately 1,831 foot long section where the noise barriers are parallel. The noise barriers are 147 to 308 feet apart with an average of 200’ in this section and the average barrier heights over this section of roadway would be approximately 29 feet which results in a W/H ratio under 10:1.
### Table 10
Parallel Barrier Analysis Locations

<table>
<thead>
<tr>
<th>Barrier ID</th>
<th>First Row Analysis Locations</th>
<th>Second Row Analysis Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Receiver #</td>
<td>Projected Sound Level Increase dBA</td>
</tr>
<tr>
<td>4-3</td>
<td>4NB023</td>
<td>2.8</td>
</tr>
<tr>
<td>4-4</td>
<td>4SB085</td>
<td>2.1</td>
</tr>
<tr>
<td>4-5</td>
<td>4SB160</td>
<td>4.9</td>
</tr>
<tr>
<td>4-6</td>
<td>4NB099</td>
<td>3.0</td>
</tr>
</tbody>
</table>

The parallel barrier analysis indicates that sound levels behind noise barrier pairs 4-3 & 4-4 and 4-5 & 4-6 will increase due to the sound reflection between the parallel noise barrier panels. The increase in sound levels is predicted to be up to 6.8 dBA above the sound levels predicted for the respective proposed noise barriers. The sound levels shown in Table 10 are estimates of the possible increase in sound levels due to noise barrier reflections. Absorptive treatments must be considered on the face of all of these noise barriers (4-3, 4-4, 4-5, and 4-6) to potentially reduce the amount of sound reflecting between the barriers that could reach the receptors located behind the noise barriers.

5. **How is Construction Noise Handled?**

GDOT recognizes that minimizing construction noise is important; however, in the absence of standardized federal criteria for assessing construction noise impacts related to transportation projects (FHWA Construction Noise Handbook, 2006), it is necessary to primarily rely on the standards and requirements developed by local governments to determine the criteria to which contractors must adhere.

In Georgia, contractors on all highway construction projects are required to adhere to GDOT Standard Specification Section 107.01 – Laws to Be Observed, which states in part, “The Contractor shall at all times observe and comply with all such laws, ordinances, codes, regulations, orders and decrees…” unless the necessary variance is obtained. Additionally, night time construction is proposed for the proposed project. All construction activities would adhere to Special Provision 150.11.

In order to further minimize construction noise, GDOT’s Office of Environmental Services will give the Project Manager and the design team the noise sensitive receptor information as early as possible during project development. This information would be used for the incorporation of construction noise control strategies in the project layout and design. For example, haul roads could be relocated to areas that would minimize construction vehicle noise exposure to noise sensitive receivers. The sequencing of construction activities and techniques could also be developed to minimize construction noise impacts. For example, permanent noise barriers included in project design could be constructed as early as possible, and daytime (or specified) hours could be required for certain activities.
6. **WHAT ARE THE CONCLUSIONS REACHED BASED ON THE NOISE ANALYSIS**

The construction of this project will result in 551 impacts by approaching and/or exceeding the NAC and 0 by substantial increase. The proposed project in the design year (2039) would result in up to a 4.8 decibel increase in traffic generated noise. Existing noise levels range from 50.6 to 76.3 dBA. The predicted no-build noise levels will range from 49.3 to 77.1 dBA. The predicted build noise levels will range from 49.8 to 77.0 dBA. Noise abatement for the impacted sites was considered. 36 sites were chosen and 33 were deemed to be at least feasible for abatement. It was found that 10 of the 33 studied sites that abatement would be feasible and reasonable. Sites that were not found to be feasible and reasonable were due to isolated receptors, not enough density of receptors, or receptors being too high for a wall to adequately shield. See Table 11a and 11b Summary of Findings below.

<table>
<thead>
<tr>
<th>Impacted Receiver #</th>
<th># of Receptors Represented</th>
<th>Property Identification</th>
<th>Is Abatement Feasible &amp; Reasonable</th>
<th>Approximate cost of abatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1NB012, 1NB013, 1NB015</td>
<td>3</td>
<td>Between I-985 and State Route 20 (Willow Bend)</td>
<td>No, Not Reasonable to extend existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>1NB017, 1NB018</td>
<td>2</td>
<td>Between I-985 and State Route 20 (The Village of Rock Springs)</td>
<td>1NB017 and 1NB018 receive abatement from existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>1NB060-1NB067</td>
<td>8</td>
<td>Between I-985 and State Route 20 (Sentinel Ridge)</td>
<td>Yes, all receptors receive abatement from existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>1NB075-1NB077</td>
<td>3</td>
<td>Between I-985 and State Route 20 (Sentinel Ridge)</td>
<td>No, Not Reasonable to extend existing barrier</td>
<td>N/A</td>
</tr>
<tr>
<td>2NB004-2NB015</td>
<td>43</td>
<td>Between State Route 20 and Gravel Springs Road (Summer Park Apts., Old Ivy and Crestworth Village)</td>
<td>Not reasonable, upper levels of one apartment building cannot be shielded due to much higher elevation, other apartments and residences can be shielded but cost would not be reasonable.</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>-------------------------</td>
<td>------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>2SB021</td>
<td>5</td>
<td>Ivy Creek Greenway</td>
<td>No, barrier is not feasible</td>
<td>N/A</td>
</tr>
<tr>
<td>3NB001, 3NB003</td>
<td>2</td>
<td>Between State Route 20 and Gravel Springs Road (Isolated residences on Sunny Hill Road and Morgan Road)</td>
<td>No, cost to extend barrier for 2 receptors is not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>3NB038</td>
<td>1</td>
<td>Between State Route 20 and Gravel Springs Road (On Gravel Springs Road)</td>
<td>No, barrier is not feasible</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB001, 3SB002</td>
<td>2</td>
<td>Between State Route 20 and Gravel Springs Road (On Gravel Springs Road)</td>
<td>No, cost to build barrier for 2 receptors not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB003</td>
<td>1</td>
<td>Between Gravel Springs Road and Hamilton Mill Road (On Gravel Springs Road)</td>
<td>No, cost to build barrier for 1 receptor not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB005-3SB009</td>
<td>5</td>
<td>Between Gravel Springs Road and Hamilton Mill Road (Single residence on Camp Branch Road and residences in Stonegate at Ivy Creek)</td>
<td>No, cost to build barrier is not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>3SB019</td>
<td>1</td>
<td>Between Gravel Springs Road and Hamilton Mill Road (On Pucketts Mill Road)</td>
<td>No, cost to extend barrier for 1 receptor is not reasonable</td>
<td>N/A</td>
</tr>
<tr>
<td>4NB005-4NB009</td>
<td>15</td>
<td>Between Hamilton Mill Road and SR 211 (Duncan Creek Park)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$924,991</td>
</tr>
<tr>
<td>4NB014</td>
<td>1</td>
<td>Between Hamilton Mill Road and SR 211</td>
<td>No, an extension of proposed Barrier 4-3 was reviewed to</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>4NB022, 4NB023, 4NB025, 4NB035-4NB050, 4NB066-4NB068, 4NB081</td>
<td>38</td>
<td>(On Spout Springs Road)</td>
<td>provide abatement for 4NB014 but this longer version was determined not to be reasonable.</td>
<td></td>
</tr>
<tr>
<td>4NB085-4NB090, 4NB096-4NB100</td>
<td>11</td>
<td>Between Hamilton Mill Road and SR 211 (Mill Creek High School and Flowery Branch Crossing)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$2,498,157</td>
</tr>
<tr>
<td>4SB006-4SB017, 4SB021-4SB026, 4SB032, 4SB037-4SB039</td>
<td>23</td>
<td>Between Hamilton Mill Road and SR 211 (Pilgrim Acres)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,608,094</td>
</tr>
<tr>
<td>4SB046-4SB048, 4SB056, 4SB061-4SB070, 4SB073-4SB094, 4SB115-4SB124, 4SB127, 4SB128, 4SB238</td>
<td>50</td>
<td>Between Hamilton Mill Road and SR 211 (Watermill and Oakpointe)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$2,804,497</td>
</tr>
<tr>
<td>4SB132, 4SB138-4SB145, 4SB155, 4SB158-4SB160, 4SB169-4SB182, 4SB189-190, 4SB194, 4SB195, 4SB205-4SB207, 4SB213</td>
<td>35</td>
<td>Between Hamilton Mill Road and SR 211 (Residence on Flowery Branch Road and Willow Leaf)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,798,154</td>
</tr>
<tr>
<td>5NB006, 5NB009, 5NB010, 5NB013-5NB017, 5NB022-5NB027, 5NB030,</td>
<td>16</td>
<td>Between Hamilton Mill Road and SR 211 (Retreat at Ashbury)</td>
<td>Yes, Feasible and Reasonable</td>
<td>$1,077,560</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>5NB031</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5NB040-5NB043, 5NB047, 5NB052</td>
<td>6</td>
<td>Between Hamilton Mill Road and SR 211 (Savannah Oaks and one commercial property on SR 124)</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>5SB005, 5SB006, 5SB009, 5SB011</td>
<td>12</td>
<td>Between Hamilton Mill Road and SR 211 (Legends Golf Course)</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 11b
Summary of Findings, PI 0013545:

<table>
<thead>
<tr>
<th>Impacted Receiver #</th>
<th># of Receptors Represented</th>
<th>Property Identification</th>
<th>Is Abatement Feasible &amp; Reasonable</th>
<th>Approximate cost of abatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>Office Building located north of SR 211 and east of I-85</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>6,7</td>
<td>2</td>
<td>Residential structures in the southeast quadrant of I-85 and Jessie Cronic Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>14, 15, 16, 17, 18, 19, 20, 21, 22</td>
<td>65</td>
<td>Residential structures, Braselton Christian Academy, and a cemetery along Zion Church Road, north of SR 53 and east of I-85</td>
<td>Yes, feasible and reasonable</td>
<td>$1,032,413</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td>------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>25, 26</td>
<td>2</td>
<td>Residential structure located north of SR 53, east of I-85, and west of SR 124</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>27, 28</td>
<td>2</td>
<td>Residential structures east of I-85, at the end of Tom White Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>Residential structures located in the northwest quadrant of SR 60 and McNeil Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>92, 93</td>
<td>2</td>
<td>Residential structures located in the northwest quadrant of SR 60 and McNeil Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>Impacted Receiver #</td>
<td># of Receptors Represented</td>
<td>Property Identification</td>
<td>Is Abatement Feasible &amp; Reasonable</td>
<td>Approximate cost of abatement</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>83, 84, 85, 86, 87, 88, 89, 90</td>
<td>8</td>
<td>Residential structures located in a subdivision north of SR 60, west of I-85, and east of McNeal Road, at the end of Margie Court and Lamar Lane</td>
<td>Yes, feasible and reasonable</td>
<td>$439,964</td>
</tr>
<tr>
<td>64, 65, 66, 67, 68, 69, 259, 260, 261</td>
<td>9</td>
<td>Residential structures located in the Shadow Brook subdivision, west of I-85 and east of McNeal Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>32, 33, 34, 35, 37</td>
<td>5</td>
<td>Residential structures at the end of Stonewall Drive, east of I-85 and west of SR 332</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>38</td>
<td>1</td>
<td>Residential structure in the southeast quadrant of I-85 and SR 332</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>62</td>
<td>1</td>
<td>Residential structure in the southwest quadrant of I-85 and SR 332</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>39, 40, 41, 42, 45, 46</td>
<td>6</td>
<td>Residential structures along Katie Spring Lane, east of I-85 and west of Old Pendergrass Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>48, 49, 50, 53, 54</td>
<td>5</td>
<td>Residential structures at the end of Whirlaway Street and Lewis Sailors Road, east of I-85 and west of Old Pendergrass Road</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
<tr>
<td>59</td>
<td>1</td>
<td>Residential structure east of I-85 and north of SR 11/US 129</td>
<td>No, barrier not reasonable based on number of receptors to receive abatement</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Project Name: I-85 Widening
County: Gwinnett, Barrow, Jackson
P.I. Number(s): 110610 and 0013545
### Impacted Receiver # | # of Receptors Represented | Property Identification | Is Abatement Feasible & Reasonable | Approximate cost of abatement
--- | --- | --- | --- | ---
| | | | receive abatement |

7. **WHAT IS THE LIKELIHOOD A PROPOSED BARRIER WILL BE CONSTRUCTED**

Based on the studies and conclusions of this report it has been determined that noise abatement is likely, but not guaranteed, at 10 locations described as follows:

**Barrier 4-1**: A 1,700’ barrier varying 8’ to 30’ in height. This barrier shields Duncan Creek Park and is located east of I-85 approximately 2,750 feet north of Hamilton Mill Road.

**Barrier 4-2**: A 2,391’ barrier varying 12’ to 30’ in height. This barrier shields residences in the Beyers Landing subdivision as well as residences on Doc Hughes Road is located west of I-85 and just south of Spout Springs Road.

**Barrier 4-3**: A 4,763’ barrier varying 18’ to 24’ in height. This barrier shields Mill Creek High School as well as residences in Millcrest Manor and Flowery Branch Crossing subdivisions and is located east of I-85 and approximately 1,150 feet north of Spout Springs Road.

**Barrier 4-4**: A 3,998’ barrier varying 16’ to 30’ in height. This barrier shields residences in the Watermill and Oakpointe subdivisions and is located west of I-85 just north of Spout Springs Road.

**Barrier 4-5**: A 2,434’ barrier varying 22’ to 30’ in height. This barrier shields residences on Flowery Branch Road and in Willow Leaf subdivision and is located west of I-85 just north of Flowery Branch Road.

**Barrier 4-6**: A 1,781’ barrier varying 14’ to 26’ in height. This barrier shields residences in the Pilgrim Acres subdivision and is located east of I-85 and just north of Flowery Branch Road.

**Barrier 5-1**: A 2,250’ barrier varying 14’ to 24’ in height. This barrier shields residences in Retreat at Ashbury subdivision and is located east of I-85 and approximately 5,000’ north of Flowery Branch Road.

PI 0013545 Barrier 3 is currently designed adjacent to the existing right-of-way (ROW), approximately 145 feet from the centerline of the proposed alternative. The barrier is located on the east side of I-85, beginning approximately 700 feet north of SR 53 adjacent to the I-85 northbound on ramp. The proposed wall is approximately 2,092 feet long and ranges in height from 12 to 28 feet.

PI 0013545 Barrier 4 is currently designed adjacent to the existing ROW, approximately 140 feet from the centerline of the proposed alternative. The barrier is located on the west side of I-85, beginning approximately 1,500 feet north of SR 53. The proposed wall is approximately 6,385 feet long and ranges in height from 24 to 30 feet.

PI 0013545 Barrier 9 is currently designed adjacent to the existing ROW, approximately 135 feet from the centerline of the proposed alternative. The barrier is located on the west side of I-85, beginning approximately 2,800 feet north of SR 60. The proposed wall is approximately 1,150 feet long and ranges in height from 8 to 18 feet.

Noise abatement at these locations is based upon preliminary noise analyses and design criteria.

A reevaluation of the noise analysis will occur during final design, should changes warrant a reevaluation. If during final design it has been determined that conditions have changed such that noise abatement is
not feasible and reasonable, the abatement measures might not be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project’s final design and the public involvement processes.
Figure 1A: Build Noise Impacts
I-85 Widening
GDOT P.I. No. 0013545
Jackson County, Georgia

Legend
Build Noise Impacts

- B: Not Impacted
- C: Not Proposed
- D: Proposed
- E: Not Impacted
- F: Not Proposed

Highlight denotes new noise sensitive receivers since the previous noise assessment

- Bridge Line
- Edge of Pavement
- Edge of Shoulder
- Proposed Barrier
- Existing Barrier

Source: USDA - NAP 2013
Figure 1B: Build Noise Impacts
I-85 Widening
GDOT P.I. No. 0013545
Jackson County, Georgia

Legend
Build Noise Impacts

Highlight denotes new noise sensitive receivers since the previous noise assessment

- Bridge Line
- Edge of Pavement
- Edge of Shoulder
- Proposed Barrier
- Existing Barrier

Source: USDA - NAP 2013
Figure 1C: Build Noise Impacts
I-85 Widening
GDOT P.I. No. 0013545
Jackson County, Georgia

Legend
Build Noise Impacts

- B, Not Impacted
- C, Not Impacted
- E, Not Impacted
- F, Not Impacted
- G, Impacted
- H, Impacted
- I, Not Impacted

Highlight denotes new noise sensitive receivers since the previous noise assessment

- Bridge Line
- Edge of Pavement
- Edge of Shoulder
- Proposed Barrier
- Existing Barrier

Source: USDA - NAP 2013
Figure 1D: Build Noise Impacts
I-85 Widening
GDOT P.I. No. 0013545
Jackson County, Georgia

Legend
Build Noise Impacts

- B, Not Impacted
- B', Impacted
- C, Not Impacted
- C', Impacted
- E, Not Impacted
- E', Impacted
- F, Not

Highlight denotes new noise sensitive receivers since the previous noise assessment

- Bridge Line
- Edge of Pavement
- Edge of Shoulder
- Proposed Barrier
- Existing Barrier

Source: USDA - NAP 2013
Figure 1E: Build Noise Impacts
I-85 Widening
GDOT P.I. No. 0013545
Jackson County, Georgia

Legend
Build Noise Impacts

Highlight denotes new noise sensitive receivers since the previous noise assessment

- Bridge Line
- Edge of Pavement
- Edge of Shoulder
- Proposed Barrier
- Existing Barrier

Source: USDA - NAP 2013
Delete Section 624 and substitute the following:

624.1 General Description

This work includes furnishing and installing a noise barrier wall, single and double steel doors and concrete pads according to this Specification and conforming to the locations, dimensions, lines, grades, and material type shown on the Plans.

Types of noise wall material include the following:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Concrete masonry units</td>
</tr>
<tr>
<td>B</td>
<td>Interlock steel panels</td>
</tr>
<tr>
<td>C</td>
<td>Precast concrete panels</td>
</tr>
<tr>
<td>D</td>
<td>Treated timber panels</td>
</tr>
<tr>
<td>F</td>
<td>Glass reinforced thermoset composite structural panels</td>
</tr>
<tr>
<td>G</td>
<td>Precast autoclaved aerated concrete (PAAC) panels</td>
</tr>
<tr>
<td>H</td>
<td>Absorptive panels</td>
</tr>
<tr>
<td>I</td>
<td>Reflective panels</td>
</tr>
</tbody>
</table>

If a material type is not specified elsewhere in the Contract, then the noise barrier walls shall be constructed using precast concrete panels. Interlocking steel panels shall be used where a lighter weight material is necessary such as on bridges and retaining walls. A decision to use a noise barrier wall material other than precast concrete panels or interlocking steel panels, as noted above, will require written approval from the GDOT Chief Engineer.

624.1.01 Definitions

General Provisions 101 through 150.

624.1.02 Related References

A. Standard Specifications

   Section 106—Control of Materials
   Section 201—Clearing and Grubbing Right-of-Way
   Section 205—Roadway Excavation
   Section 206—Borrow Excavation
   Section 208—Embankments
   Section 210—Grading Complete
   Section 500—Concrete Structures
Section 624—Noise Barriers

Section 520—Piling

Section 700—Grassing

Section 702—Vine, Shrub, and Tree Planting

Section 865—Manufacture of Prestressed Concrete Bridge Members

Section 885—Elastomeric Bearing Pads

B. Referenced Documents

GDT 7
GDT 20
GDT 21
GDT 24a
GDT 24b
GDT 59
GDT 67
QPL 42
QPL 53
QPL 90

Federal Specification QQ-S-763-C

<table>
<thead>
<tr>
<th>AASHTO</th>
<th>ASTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 31/M 31M</td>
<td>A 153/153M</td>
</tr>
<tr>
<td>A 366</td>
<td>A 653/653M</td>
</tr>
<tr>
<td>A 526</td>
<td>A 792/792M</td>
</tr>
<tr>
<td>A 568</td>
<td>B 695</td>
</tr>
<tr>
<td>A 569</td>
<td>B 766</td>
</tr>
<tr>
<td>A 572</td>
<td>C 1693</td>
</tr>
<tr>
<td>A 591</td>
<td>D 638</td>
</tr>
<tr>
<td></td>
<td>D 695</td>
</tr>
<tr>
<td>D 790</td>
<td>D 792</td>
</tr>
<tr>
<td>D 2092</td>
<td>D 2583</td>
</tr>
<tr>
<td>E 90</td>
<td>G 154</td>
</tr>
</tbody>
</table>

624.1.03 Submittals

Submit Shop Drawings to the Department on 12” by 18” (305mm by 457mm) or 11” by 17” (279mm by 432mm) plan sheets along with a portable document format (pdf) electronic file.

A. Noise Barrier Wall

Submit sketches and other data, that either verifies the wall will fit the final field conditions or indicates where revisions are necessary, to the Engineer for review and approval. Submit this information prior to the creation of noise barrier wall shop drawings.

Prepare Shop Drawings for each Noise Barrier wall.

Show all details necessary for field erection. The minimum requirements are:

- Complete elevation view showing the top and bottom elevations, the required wall envelope, the roadway grade, top of side barrier, top and bottom of footing of side barrier and ground line at the wall.
- Diameter and depth of caissons at each post
- Post size
- Complete plan view with dimensions, stations and offset
Section 624—Noise Barriers

1. Type A, B, C, D, F, G and I:
   Have the manufacturer certify to the Department that a specimen of the proposed barrier meets or exceeds a minimum weighted sound transmission loss of 20 dBA. Furnish test results for barrier material types (except Type C). The transmission or loss results must be based on the generalized truck spectrum when tested according to ASTM E 90.

   Have the manufacturer certify to the Department that a specimen of the proposed noise barrier meets or exceeds a minimum wind load of 80 mph / 28 psf (129 kmh / 1,341 Pa).

2. Type H:
   Provide manufacturer certification to the Department that a specimen of the proposed barrier meets or exceeds a minimum noise reduction coefficient (NRC) of 0.8 and a minimum sound transmission class (STC) of 30 when tested according to ASTM C423.

   Have the manufacturer certify to the Department that a specimen of the proposed noise barrier meets or exceeds a minimum wind load of 80 mph / 28 psf (129 kmh / 1,341 Pa).

B. Steel Doors

Prepare Shop Drawings for a Single Steel Door and a set of Double Steel Doors.

Show all details necessary for general construction, configurations, jointing methods, reinforcement, and anchorage meeting the following requirements:

- Double steel exterior fire doors – 96 in (2,238 mm) height by 36 in (914 mm) width with latch bolt throws with two adjoined concrete pads – 18 ft (5.49 m) length by 4 ft (1.22 m) width by 6 in (152 mm) depth concrete pad and 10 ft (3.05 m) length by 4 ft (1.22 m) width by 6 in (152 mm) depth concrete pad
- Single steel exterior door – 84 in (2,134 mm) height by 36 in (914 mm) width with latch bolt throws with two adjoined concrete pads – 10 ft (3.05 m) length by 4 ft (1.22 m) width by 6 in (152 mm) depth concrete pad and 4 ft (1.22 m) length by 4 ft (1.22 m) width by 6 in (152 mm) depth concrete pad
- Latch bolt throws - 38 in (965 mm) to centerline of door knobs from top of finished concrete pad.

624.2 Materials

Ensure other materials not listed herein meet the requirements of the appropriate Specification to which they pertain.

A. Type A

<table>
<thead>
<tr>
<th>Concrete-Class A Hollow Load Bearing Concrete Masonry Units (Concrete Block) ASTM C 90, Grade N-I or N-II</th>
<th>Section 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortar</td>
<td>Section 834</td>
</tr>
</tbody>
</table>

B. Type B

1. Interlocking Steel Panels

   Use cold formed configured steel panels that meet these requirements:

   a. Use steel sheet conforming to ASTM A 653/653M or ASTM A 792/792M Structural Steel (SS) Grade 50 Class 2 with a minimum thickness of 0.029 inches (0.74 mm)

   b. Has a male-female rib that provides a friction interlock connection with adjacent panels or is joined adequately according to the manufacturer’s specifications

   c. Provides sufficient friction interlock connection strength to support its own weight without using fasteners when connected to another panel and held in a vertical or horizontal position

   d. Use a panel size and shape shown on the Plans or an alternate approved by the Engineer.
e. Coat (galvanize) the panels with either a G90 (Z275) weight of zinc according to ASTMA 653/653M or an AZ50 (AZM150) weight of 55% aluminum-zinc alloy according to ASTM A 792/792M.

2. Protective Color Coating

Use one of the following coatings:

a. System A—The coating is polyvinylidene fluoride (70 percent resin, minimum enamel, PVF2).
   1) Apply the coating system (including primer) at a total minimum film thickness of 1 mil (0.03 mm) per coated side.
   2) Cure the polyvinylidene fluoride film to at least 0.8 mil (0.02 mm) film thickness.

b. System B—The coating is polyvinyl fluoride plastic film (PVF1) and has a thickness of at least 1.5 mils (0.04 mm) coated on both sides.
   1) Have the coating applied at the factory to thoroughly cleaned and pretreated galvanized steel according to ASTM D 2092, Method F.
   2) Laminate the coating to the galvanized steel using heat and adhesive to form a uniform and durable coating pigmented to obtain optimum color performance.
   3) Use a color from the Federal Standard Color Number indicated on the Plans. Ensure that caulking is color pigmented to match the wall color specified.

3. Post

Use post for steel walls with these features:

a. Hot rolled shape conforming to AASHTO M 270/M 270M GR 36/GR 250
b. Hot-dip galvanized by an approved galvanizer as listed on QPL-53 and in accordance with AASHTO M 111/M 111M
c. Coating that weighs at least 2 ounces/ft² (610 g/m²) on all sides
d. Each post requires pre-inspection by the Office of Materials & Testing as evidenced by a GDT stamp affixed near one end of each post

4. Steel Flashing and Caps

a. Use flashing and caps for steel walls of the same material and color coating as the panels. Fasten steel flashing and caps with self-tapping screws. Ensure that A-1 screws are Class #410 Stainless Steel and conform to Federal Specification QQ-S-763-C, or are cadmium coated according to ASTM B 766.

5. Fasteners

a. Attach panels to posts using a powder-actuated fastening system. Ensure fasteners are stainless steel or hot-dip galvanized as per ASTM A 153 Class C or have a mechanically deposited zinc coating as per ASTM B 695 Class 50.

C. Type C

1. Use precast concrete panels meeting the following requirements:

<table>
<thead>
<tr>
<th>Class AA Concrete or SCC Concrete</th>
<th>Section 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforcing</td>
<td>AASHTO M 31/M 31M and M 32/M 32M</td>
</tr>
<tr>
<td>Piling-Galvanized Steel</td>
<td>Section 520 and AASHTO M 111/M 111M</td>
</tr>
<tr>
<td>Elastomeric Bearing Pads</td>
<td>Section 885</td>
</tr>
</tbody>
</table>

If SCC is used the following shall be met: wet/cement ratio 0.40 min 3500 psi Spread Slump 24" ± 2", Air Entrainment – min 3.5% to max 6.5%

2. Use hot-dip galvanized piling, bolts, and fittings when the barrier rests on another concrete structure.
D. Type D

1. Use treated timber panels meeting the following requirements:

<table>
<thead>
<tr>
<th>Noise Barrier Walls</th>
<th>See QPL 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A Concrete</td>
<td>Section 500</td>
</tr>
<tr>
<td>Lumber and Timber</td>
<td>Section 860</td>
</tr>
<tr>
<td>Preservative Treatment of Timber Products</td>
<td>Section 863</td>
</tr>
</tbody>
</table>

E. Type F

1. Structural Plank: Use continuous glass fiber reinforced structural planks meeting the following requirements:
   a. Constructed of a durable, UV resistant, flame retardant, thermosetting composite material
   b. Resistant to degradation from ozone, hydrocarbons, and freeze/thaw cycling
   c. Matches the Federal Standard Color Number indicated on the Plans
   d. Meets the following minimum mechanical properties:

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>MINIMUM VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Modulus</td>
<td>2,200,000 psi (15200 MPa)</td>
<td>ASTM D 790</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>70,000 psi (480 MPa)</td>
<td>ASTM D 790</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>65,000 psi (450 MPa)</td>
<td>ASTM D 638</td>
</tr>
<tr>
<td>Tensile Modulus</td>
<td>4,500,000 psi (31000 MPa)</td>
<td>ASTM D 638</td>
</tr>
<tr>
<td>Elongation</td>
<td>1.5%</td>
<td>ASTM D 638</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>60,000 psi (410 MPa)</td>
<td>ASTM D 695</td>
</tr>
<tr>
<td>Barcol Hardness</td>
<td>50</td>
<td>ASTM D 2583</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.86</td>
<td>ASTM D 792</td>
</tr>
</tbody>
</table>

2. Filler: Use either hollow structural planks or planks filled with a recycled tire rubber compound comprised of sorted and graded ground tire rubber (0.25 ± 0.025 inch (6.4 ± 0.6 mm)).

3. Flashing and Caps: Use flashing and caps of the same material and color as the panels.

4. Caulking: Use color pigmented caulking matching the wall color specified.

5. Posts: Use posts fabricated from hot rolled shapes conforming to AASTHO M 270/M270 M, GR 36/ GR 250, and hot dip galvanized in accordance with AASHTO M 111/M 111M, except coating weight shall be a minimum of 2.0 oz/ft² (600 g/m²) on all sides.

6. Other Materials: Use materials meeting the requirements of the appropriate Section in the Specifications to which they pertain.

F. Type G

1. Precast Autoclaved Aerated Concrete (PAAC) Wall Units: Use PAAC wall units cast from a mixture of Portland cement, fine aggregate, water, gypsum, lime, and an expansion agent. After setting, and before hardening, the PAAC is machine cut to the required size, then steam-cured under pressure in an autoclave. Use PAAC that meets the following physical requirements:
   a. Has a minimum average compressive strength of 725 psi (5000 kPa) when three specimens are tested in accordance with ASTM C 1693, with no single specimen having a compressive strength of less than 580 psi (4000 kPa).
Section 624—Noise Barriers

b. Has a maximum shrinkage of 0.02% when tested in accordance with ASTM C 1693

c. Has a dry bulk density between 34 lb/ft³ (544 kg/m³) and 41 lb/ft³ (656 kg/m³) when tested in accordance with ASTM C 1693

2. Reinforcing: Use reinforcing conforming to AASHTO M31/M 31M or M32/M 32M.

3. Galvanized Steel Support: Use supports as shown on the Plans.

4. Welds: Use welds as shown on the Plans.

5. Coatings: Use only approved coating systems on all exposed surfaces, including steel supports. Use the same topcoat color on both the PAAC panels and the steel supports. Submit independent laboratory test results for 1500 hours of accelerated weathering in accordance with ASTM G 154. Submit results that show ratings of at least 9 in the following categories: color change, chalking, checking, cracking, blistering, flaking and rusting. Submit a certification stating that the PAAC topcoat is graffiti resistant.

G. Type H

1. Noise Absorptive Panels
   a. Constructed of a durable lightweight, UV resistant, flame retardant material and be able to resist a wind load of 80 mph / 28 psf (129 kmh / 1,341 Pa). Provide manufacturer certified wind load test report.
   b. Resistant to degradation from ozone, hydrocarbons, and freeze/thaw cycling.
   c. Matches the Federal Standard Color Number 16360 (T-ROCK GREEN) or equivalent.
   d. Free draining to prevent moisture buildup and possible corrosion.

2. Post
   a. Fabricated from steel conforming to the requirements of ASTM A572 GR50/A572M GR 345.
   b. Hot-dip galvanized according to AASHTO M 111/M 111M, with a minimum coating weight of 2.0 oz/ft² (600 g/m²) on all sides.
   c. Galvanized after fabrication.

3. Anchor bolts, nuts, washers and base plates
   a. Use anchor bolts, nuts and washers meeting the requirements of Subsection 852.2, or ASTM F1554 Grade 36 (F1554M), A563 (A563M) and F436 (F436M), except use rolled threads meeting 8 UN/ 8UNR thread profile according to ANSI B1.1. Use bolts with Class 2A threads, and nuts with class 2B threads. Galvanize all components in accordance with ASTM A123/A123M or A 153/A 153M, whichever is applicable.
   b. Use galvanized base plates conforming to ASTM A709 Grade 36.

4. Other Materials
   a. Use materials meeting the requirements of the appropriate Section in the Specifications to which they pertain.

H. Type I

1. Noise Reflective Panels
   a. Constructed of a durable lightweight, UV resistant, flame retardant material and able to resist a wind load of 80 mph / 28 psf (129 kmh / 1,341 Pa). Provide manufacturer certified wind load test report.
   b. Resistant to degradation from ozone, hydrocarbons, and freeze/thaw cycling.
   c. Matches the Federal Standard Color Number 16360 (T-ROCK GREEN) or equivalent.
   d. Free draining to prevent moisture buildup and possible corrosion.

2. Post
   a. Fabricated from steel conforming to the requirements of ASTM A572 GR50/A572M GR345.
   b. Hot-dip galvanized according to AASHTO M111/M 111M, with a minimum coating weight of 2.0 oz/ft² (600 g/m²) on all sides.
   c. Galvanized after fabrication.
3. Anchor bolts, nuts, washers and base plates
   a. Use anchor bolts, nuts and washers meeting the requirements of Subsection 852.2, or ASTM F1554 Grade 36 (F1554M), A563 (A563M) and F436 (F436M), except use rolled threads meeting 8 UN/8 UNR thread profile according to ANSI B1.1. Use bolts with Class 2A threads, and nuts with class 2B threads. Galvanize all components in accordance with ASTM A 123/A123M or A153/A 153M, whichever is applicable.
   b. Use galvanized base plates conforming to ASTM A709 Grade 36.

4. Other Materials
   a. Use materials meeting the requirements of the appropriate Section in the Specifications to which they pertain.

I. Single and Double Steel Doors

Ensure materials meet the following:

   b. Galvanized Steel Sheets: Zinc-coated or Zinc-Iron alloy-coated carbon steel sheets of commercial; quality, Complying with ASTM A526, with ASTM A653, G-60 zinc coating, mill phosphatized. Use for all exterior units.
   c. Supports and Anchors: Fabricate of not less than 18 gauge galvanized sheet steel.
   d. Inserts, Bolts and Fasteners: Manufacturer’s custom units, except hot-dip galvanized items to be built into exterior walls, complying with ASTM A-153, Class C or D as applicable.

2. Protective Color Coating
   Use one of the following coatings:
   a. System A—The coating is polyvinylidene fluoride (70 percent resin, minimum enamel, PVF2).
      1) Apply the coating system (including primer) at a total minimum film thickness of 1 mil (0.03 mm) per coated side.
      2) Cure the polyvinylidene fluoride film to at least 0.8 mil (0.02 mm) film thickness.
   b. System B—The coating is polyvinyl fluoride plastic film (PVF1) and has a thickness of at least 1.5 mils (0.04 mm) coated on both sides.
      1) Have the coating applied at the factory to thoroughly cleaned and pretreated galvanized steel according to ASTM D 2092, Method F.
      2) Laminate the coating to the galvanized steel using heat and adhesive to form a uniform and durable coating pigmented to obtain optimum color performance.
      3) Use a color from the Federal Standard Color Number indicated on the Plans.

624.3 Construction Requirements

624.3.01 Construction

Perform the following work according to the Specifications:

A. Clearing and Grubbing
   When necessary, clear and grub according to Section 201 as applicable.

B. Excavation, Borrow, Embankment
   Perform excavation, borrow, and embankment according to Section 205, Section 206, Section 208, or Section 210. The scope and dimensions of the work are shown on the Plans.

C. Grassing
   Perform grassing according to Section 700, as specified on the Plans.
D. Vine, Shrub, and Tree Planting

Plant vine, shrub, and trees according to Section 702 as specified on the Plans.

E. Miscellaneous Construction Items

When items are shown on the Plans but are not covered in this Specification, the Plans and Standard Specifications to which they pertain govern the work.

F. Walls, Single and Double Steel Doors

Follow these requirements to construct each type of wall:

1. Type A Wall

When using hollow load bearing concrete masonry units (concrete block) to construct the walls, work according to the notes, details, and dimensions on the Plans, including footings, reinforcement, and plaster coat when required.

2. Type B Wall

a. Install steel noise barrier walls according to the manufacturer’s recommendations and Plan details.

b. Repair cut, scratched, or marred surfaces according to the manufacturer’s recommendations.

3. Type C Wall

When using precast concrete panels:

a. Cast panels at a precast concrete plant listed on QPL 9 or at a precast facility approved by the Engineer.

b. Have the Engineer determine panel acceptability from the compressive strength of cylinders made and cured the same as the panels and from inspection during manufacture.

Have the panel manufacturer furnish facilities and assistance to sample and test quickly and satisfactorily.

c. Cast the panels on a steel surface with steel side forms.

d. Place concrete in each panel without interruption. Consolidate the concrete using vibrators supplemented by hand tamping and rodding to force the concrete into the corners of the forms to eliminate stone pockets, cleavage planes, and air bubbles.

e. Architectural finish required. Use the Ashlar Stone finish unless another architectural finish is specified.

Provide a similar architectural finish to the opposite side of the barrier unless noted otherwise in the plans.

f. Cure the panels as specified in Subsection 500.3.05.Z.1, “General Curing—Supplying Additional Moisture,” (wet cure) long enough for the concrete to develop the specified compressive strength.

   1) Ensure that the curing period is at least 72 hours under normal summer temperature conditions. In colder weather extend the curing period, as directed by the Engineer.

   2) Protect the panels from freezing from the time the concrete is placed until curing is complete.

   3) Instead of the wet cure method, steam cure the panels as specified in Subsection 865.2.01.B.2.g.(2) if desired.

   g. Mark each panel with the date cast and the Inspector’s approval stamp.

   h. Erect the panels according to Plan details and dimensions.

   Place bearing pads as shown in the Plans, and tighten the restraining bolts.

   i. After erection is complete and before Final Acceptance of the Project, clean the noise barrier to remove dirt or stains.

4. Type D Wall

NOTE: Even with the Inspector’s acceptance at the precast yard, panels can still be rejected at the erection point if they are damaged.
Install in accordance with manufacturer’s recommendations and plan details. Do not install walls with burns, discolorations, cracks, or other objectionable marks that would adversely affect the performance of the system.

5. Type F Wall
   Install in accordance with manufacturer’s recommendations and Plan details. Do not install walls with burns, discolorations, cracks, or other objectionable marks that would adversely affect the performance of the system.

6. Type G Wall
   a. Cast the PAAC panels in a precast facility approved by the Engineer.
   b. Have the Engineer determine panel acceptability from the compressive strength of cylinders made and cured the same as the panels and from inspection during manufacture.
      Have the panel manufacturer furnish facilities and assistance to sample and test quickly and satisfactorily.
   j. Cast the panels on a steel surface with steel side forms. When an architectural finish is specified for one side of the barrier, provide a similar finish to the opposite side unless noted otherwise in the plans.
   k. Place concrete in each panel without interruption. Consolidate the concrete using vibrators supplemented by hand tamping and rodding to force the concrete into the corners of the forms to eliminate stone pockets, cleavage planes, and air bubbles.
   l. After machine cutting to the required size, cure the PAAC units by high-pressure steam autoclaving so that the units meet the physical requirements of Subsection 624.2.E.1.
   m. Mark each panel with the date cast and the Inspector’s approval stamp.

   **NOTE: Even with the Inspector’s acceptance at the precast yard, panels can still be ejected at the erection point if they are damaged.**

   n. Erect the panels according to Plan details and dimensions.
   o. After erection is complete and before Final Acceptance of the Project, clean the sound barrier to remove dirt or stains.
   p. Use coatings that are approved by the Laboratory.
      1) PAAC panels. Apply the coating with a sponge-textured roller in accordance with the manufacturer’s recommendations. Cover all exposed galvanized steel surfaces for protection from splattering. Apply the coating at a minimum thickness of 60 dry mils (1.5 mm). Apply the coating only when the ambient temperature is greater than 40 °F (4 °C) and rising. Do not apply any coating during rainfall or when rainfall is forecast overnight.
      2) Galvanized Steel Supports. Apply a corrosion resistant coating by brush, roller, or airless spray in accordance with the manufacturer’s recommendations. Protect the adjacent PAAC surfaces from overspray. Apply the coating at a minimum thickness of 2 dry mils (0.5 mm). Use a color that matches the PAAC final topcoat color. Apply the coating only when the ambient temperature and relative humidity fall within the limits stated by the manufacturer.

7. Type H Wall
   Install in accordance with manufacturer’s recommendations and Plan details. Do not install walls with burns, discolorations, cracks, or other objectionable marks that would adversely affect the performance of the system. Ensure to install panels with the absorptive portion facing the highway side.

8. Type I Wall
   Install in accordance with manufacturer’s recommendations and Plan details. Do not install walls with burns, discolorations, cracks, or other objectionable marks that would adversely affect the performance of the system. Ensure to install panels with the reflective portion facing the highway side.

9. All Walls
Before beginning earthwork on the Project, stake the noise barriers in the field and establish the final ground line elevations at the noise barrier walls.

After wall stake out data has been reviewed and approved by the Engineer per subsection 624.1.03, furnish these elevations to the supplier who will develop the shop plans per subsection 624.1.03.A.

a. Protect the final ground elevations established in the field for the duration of the Project. Do not adjust them without the Engineer’s approval.

b. Install noise barriers according to the Plans and Shop Drawings approved by the Engineer.

c. Secure joints and connections to be structurally sound with no visible openings for sound transmission. Ensure that vibration from metal barriers is not a secondary source of noise transmission.

d. Repair marred, chipped, scratched, or spalled barrier areas according to the manufacturer’s recommendations and as directed by the Engineer at the Contractor’s expense.

e. To substitute welded for fixed-bolt connections or vice versa on metal barriers and doors, meet these conditions:
   1) Submit load calculations for the specific connection to be modified.
   2) Use a safety factor of at least 3.0.

f. Place trench backfill for noise barrier construction according to Section 207. Use select material to backfill. If the Engineer believes the trench is too narrow for compaction, backfill the trench excavation with concrete grout to the Engineer’s satisfaction. No additional compensation will be made for the concrete grout.

g. Dispose of excess excavation to the Engineer’s satisfaction.

h. Keep right-of-way fence scheduled to be salvaged in place until the noise barrier is constructed, or as long as the Engineer deems practical.

i. After erecting the noise barrier, leave the disturbed area in a finished condition at the Engineer’s direction and plant grass or sod.

j. Payment for establishing grass is described in Subsection 624.4.C, “Grassing.”

k. Ensure noise barrier meets these tolerances:
   1) Vertical alignment for barriers and posts is:
      • 0.5 in (15 mm) for noise barrier heights to 10 ft (3 m)
      • 1 in (25 mm) for noise barrier heights to 20 ft (6 m)
      • 1.5 in (40 mm) for noise barrier heights to 30 ft (9 m)
   2) Horizontal alignment for noise barriers is close to that shown on roadway Plans.
   3) Post spacings are within 0.5 in (15 mm) of their intended location.

l. For noise barriers built on top of earth berms, construct the berms of earthwork fill material and compact to 95% of the maximum density as determined by GDT 7, GDT 24a, GDT 24b, or GDT 67, as applicable. Determine in-place density according to GDT 20, GDT 21, or GDT 59, as applicable.

10. Single and Double Steel Doors

a. Install single and double steel doors according to the manufacture’s recommendations, the Plans, and Shop Drawings approved by the Engineer.

b. Furnish the elevations and locations to the supplier who will develop the Shop Plans, including a complete elevation view of each single and double steel door set indicating the locations and the concrete pad top elevation.

G. Graffiti-Proof Coating

This work includes providing graffiti-proof coating on both faces of concrete and masonry noise barriers, and single and double steel doors from the ground line to the top of the wall.
1. **Materials.** Use materials as noted on QPL 42.

2. **Delivery and Storage.** Ensure that the materials are delivered in manufacturer’s original containers with labels intact. Store the materials out of the weather, in a single location, and as specified by the manufacturer.

3. **Job Conditions.** Protect the coating from the weather and work conditions as follows:
   - a. Apply the graffiti-proof coating in weather recommended by the manufacturer.
   - b. Mask, cover, or otherwise protect finished adjacent surfaces from damage that work in this Section could cause.
   - c. Protect finished coatings from staining, marring, and damages from other trades.

4. **Quality Criteria.** Use materials that are products of one manufacturer. Use application equipment recommended or approved by the coating manufacturer for use on this Project. Use equipment in good operating condition.

5. **Application.** Ensure that the moisture content of surfaces to receive coating are within the limits recommended by the coating manufacturer.
   - a. Apply coating after applying a Type III finish of concrete, or after thoroughly cleaning the concrete block.
   - b. Apply coating at rate of 1 gal per 250 to 300 ft² (1 L per 6 to 7 m²). Apply three coats using a low-pressure spray.
   - c. Begin the coating application at the uppermost surfaces and work down.
   - d. Remove loose particles, dirt, grease, oil, and other foreign materials following application.

### 624.3.02 Quality Acceptance
The panels are subject to rejection if they fail to meet the requirements specified above. The following defects are also cause for rejection:

1. Defects from imperfect mixing and casting
2. Honeycombed or open texture
3. Exposed reinforcement
4. Failure to meet the required 3,500 psi (25 MPa) compressive strength at 28 days

### 624.4 Measurement

**A. Clearing and Grubbing**
Clearing and grubbing will not be measured separately for payment.

**B. Excavation, Borrow, and Embankment**
Excavation, borrow, and embankment will not be measured for payment unless an earthwork pay item is included in the contract.

The scope and dimensions of the work are as shown on the Plans.

**C. Grassing**
Grassing is not measured separately for payment unless shown on the Plans as a payment item.

**D. Vine, Shrub, and Tree Planting**
Vine, shrub, and tree planting shown on the Plans is measured according to Section 702.

**E. Items Not Covered in This Specification**
Items shown on the Plans but not covered in this Specification are measured for payment according to the applicable portions of the Specifications.

**F. Walls**

1. **Type A Wall**
   Concrete masonry wall constructed of concrete masonry units (blocks), complete in place, is measured in square feet (meters) of area from end to end and from top of footing to top of wall, including solid top block or solid cap block.

2. **Type B Wall**
Steel wall is measured in square feet (meters) of wall surface installed before backfilling complete in place according to Subsection 109.01, “Measurement and Quantities.” There will be no separate measurement for posts, flashing, caps, concrete post embedment, or other incidental items required for construction.

3. Type C Wall
Precast concrete noise barriers are measured in square feet (meters) of wall surface before backfilling, including pile flanges, complete in place and accepted.
There will be no separate measurement for pile, anchor bolts, plates, connections, neoprene bearing pads, connecting bolts, or other components of the noise barrier.

4. Type D Wall
Treated timber walls are measured in square feet (meters) of wall surface installed before backfilling.
No separate measurement is made for posts, caps, foundations, footings, hardware, timber treatment, pile, or over oards.

5. Type F Wall
Glass reinforced thermoset composite structural panel walls are measured in square feet (meters) of wall surface installed before backfilling complete in place in accordance with Section 109.
There will be no separate measurement for posts, top caps, bottom caps, side caps, flashing, strip seals, mounting brackets and hardware, concrete post embedment, or other incidental items required for construction.

6. Type G Wall
Precast Autoclaved Aerated Concrete walls are measured in square feet (meters) of wall surface installed before backfilling, complete in place and accepted.
There will be no separate measurement for steel supports or any other components of the noise barrier.

7. Type H Wall
Absorptive panel walls are measured in square feet (meters) of wall surface before backfilling complete in place and accepted. There will be no separate measurement for steel post or any other components of the noise barrier.

8. Type I Wall
Reflective panel walls are measured in square feet (meters) of wall surface before backfilling complete in place and accepted. There will be no separate measurement for steel post or any other components of the noise barrier.

624.5 Payment
The pay quantities will be the Wall Envelope quantities shown in the Plans unless the Engineer approves an adjusted wall envelope. In this case, the pay quantities will be the adjusted wall envelope quantities.

No additional compensation will be made for any additional material, equipment, design, or other items found necessary to comply with the project Specifications as a result of the Department's review except for changes made necessary by the survey verification required by Subsection 624.1.03 and Subsection 624.3.01.F.9, or other changes approved by the Engineer.

Include in the unit bid prices all costs necessary to comply with the requirements of this specification. No payment will be made for wall area outside of the adjusted wall envelope.

A. Clearing and Grubbing
The cost of clearing and grubbing is included in the Lump Sum Clearing and Grubbing Item for the Project. When clearing and grubbing is not shown as a payment Item, the cost is included in the overall Contract Price for the work covered in this Specification.
Section 624—Noise Barriers

B. Unclassified Excavation and Borrow

No separate payment will be made for Excavation, Borrow and Embankment unless shown on the Plans as a separate Pay Item.

C. Grassing

No separate payment will be made for Grassing unless shown on the Plans as a separate pay item.

D. Vine, Shrub, and Tree Planting

When the Plans state that this Item will be paid for, payment will be made under Section 702.

E. Items Not Covered by This Specification

Items shown on the Plans to be paid for but are not covered by this Specification will be paid for according to the applicable portions of the Specifications.

F. Walls

1. Type A Wall
   a. Concrete block walls will be paid for at the Contract Unit Price bid per square foot (meter). Payment includes but is not limited to: Concrete blocks of the thickness shown on the Plans for the wall and pilasters.
   b. Plaster coat when required
   c. Excavation for footings, concrete footings, and reinforcement when specified
   d. Incidents to complete the Item, including graffiti-proof coating

2. Type B Wall
   Steel wall will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing and installing materials, providing post and post embedment, and providing labor, equipment, and incidentals to complete the Work.

3. Type C Wall
   Precast concrete noise barrier will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing materials, including piling and attachments and for erecting the noise barrier, including graffiti-proof coating.

4. Type D Wall
   Treated timber wall will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing materials including concrete and steel and for erecting the noise barrier.

5. Type F Wall
   Glass reinforced thermoset panel walls will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing and installing materials, including post and post embedment, and for labor, equipment, and incidentals to complete the Work.

6. Type G Wall
   Precast autoclaved aerated concrete noise barrier will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing materials, including steel supports, and for erecting the noise barrier, including graffiti-proof coating.

7. Type H Wall
   Absorptive wall will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing and installing materials, post and post embankment, labor, equipment, and incidentals to complete the Work.
Section 624—Noise Barriers

8. Type I Wall

Reflective wall will be paid for at the Contract Unit Price bid per square foot (meter). Payment is full compensation for furnishing and installing materials, post and post embankment, labor, equipment, and incidentals to complete the Work.

Payment will be made under:

| Item No. 624 | Noise barrier type ___ | Per square foot (meter). |

624.5.01 Adjustments

General Provisions 101 through 150.

Office of Materials and Testing
Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0013545

Attachment 22-4

SPECIAL PROVISION

CONSTRUCTION DETAIL N

Sheet N-1A  Sound Barrier Foundation and Post Details (1 of 2)
Sheet N-1B  Sound Barrier Foundation and Post Details (1 of 2)
Sheet N-2  Sound Barrier Details at Concrete Side Barriers
Sheet N-3  Spread Footing Alternate for Sound Barrier Wall
Sheet N-4  Sound Barrier Type B Interlocking Steel Panels
Sheet N-5  Sound Barrier Type B Precast Concrete Panels
NOTE:

- 6" MIN. DETAIL FOR GROUND MOUNTED SOUND BARRIER POST FOUNDATION
- 3'-6" MAX. 12" MIN. FOOTING DETAIL FOR SIDE BARRIER
- 10" MIN. DESIGN HEIGHT \( H \) FOR POST SIZE AND FOUNDATION DEPTH

1'-0" MAX. 8'-0" MINIMUM DESIGN HEIGHT \( H \) FOR FOUNDATION DEPTH

10'-0" MINIMUM FOR CORNER POST

TRAFFIC FACE OF TYPE 2 SERIES CONCRETE SIDE BARRIER

TRAFFIC FACE OF TYPE 6 SERIES CONCRETE SIDE BARRIER

REQUIRED FLASHING FOR NO GAP CONSTRUCTION

DETAILED REQUIREMENTS AS SHOWN ON CONSTRUCTION DETAILS D-49 AND ROADWAY PLANS.

Construction or expanded joints in the Type 2 Series and Type 6 Series barriers shall be located a minimum of 3'-0" from a block-out.

Valves required for panels behind the barriers, see Construction Detail D-49 and roadway plans.
NOTES

1. SPREAD FOOTING ALTERNATE SHALL BE USED ONLY WHEN THE DRILLED SHAFT FOUNDATION IS NOT FEASIBLE DUE TO SMALLER ROCK.
2. SPREAD FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING CAPACITY OF 15 TONS PER 105 FT.
3. ANCHOR BOLTS SHALL BE 4-45/8 WITH WASHERS AND HEX NUTS.
4. ALL NUTS, BOLTS, WASHERS, PLATES AND HARDWARE REQUIRED FOR CONSTRUCTING SOUND BARRIERS SHALL BE OF GALVANIZED IN ACCORDANCE WITH ASTM A 307. TAPPED FOR NUTS SHALL BE USE
5. ALL NUT, BOLTS, WASHERS, PLATES AND HARDWARE REQUIRED FOR INSTALLATION SHALL BE INCLUDED IN THE POST AND FOR SOUND BARRIER.
6. THE POST SIZE SHALL BE AS SHOWN ON THE POST DETAIL SHEET, THE WALL MOUNTED POST SIZE SHALL BE USED.
7. DESIGN DATA: REINFORCEMENT STEEL: 60 KSI, 4% = 3000 PSI
8. MAXIMUM POST SPACING ALLOWED IS 10 FEET.

ELEVATION

<table>
<thead>
<tr>
<th>TABLE OF LETTERED BARS AND DIMENSIONS</th>
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<tbody>
<tr>
<td><strong>QUANTITIES</strong></td>
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<tr>
<td><strong>DESIGN</strong></td>
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</tbody>
</table>
| 10"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 1.9         | 119
| 12"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 2.1         | 129
| 14"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 2.4         | 175
| 16"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 2.5         | 188
| 18"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 3.0         | 292
| 20"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 3.3         | 289
| 22"         | 1-0"       | 3-0"  |       | 6        | 4        | 2        | 2        | 1        | 3.5         | 342

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
CONSTRUCTION DETAIL
SPREAD FOOTING ALTERNATE FOR SOUND BARRIER WALL

SCALE 1/8" = 1'-0"

DESIGNER: PT/TP
REVIEWED: PT/TP
APPROVED: PT/TP
GENERAL NOTES:

1. All posts shall be enclosed with flashing.
2. The top cap of the wall shall also cover the area enclosed by the post flashing.
3. The sound barrier panels shall be able to resist a wind load of 80 MPH (28 PSF). Additional girts, fasteners, etc. shall be shown where necessary in the shop drawings, and shall be included in the bid price, per square foot of sound barrier.
4. The wall panels shall be placed a minimum of 6" into the berm / existing ground if no side barrier protection device is utilized. See Typical Section.
5. See Specifications Section 624 for additional conditions.
6. Steel angle shall be placed at the top of panels between the post for panel protection. See Construction Detail Sheet N-1 for details.
7. The panels, flashing, and all exposed surfaces shall have the following color: 16360 (T-ROCK GREEN) or equivalent.
8. Sound barrier panels shall be placed on the roadway side of the support posts when mounted on bridges.
9. Where panels butt up against other panels, flashing shall be installed to ensure "air tight", no gap construction.
10. See Sheet N-2 for panel embedment details when panels are installed behind side barriers.
11. All shop drawings shall be submitted for review and approval by the engineer. Shop drawings shall include any sign attachment and flashing for sign supports.

* See Sheet N-1A and N-1B for foundation and post details.
**GENERAL NOTES**

1. Panels may be transported vertically or horizontally. If transporting horizontally, panels must be supported at 6'-0" points at all times, once vertical the panels require no additional support.

2. If temporary lifting hooks are used, they shall be placed at 1'-0" points; temporary lifting hooks shall be shown on shop and panel drawings with every single stage installation.

3. See specifications and special provisions for additional information.

4. Concrete panels shall have surface finish and a graffiti protection system according to the Georgia Standard Specifications Section 624, current edition and supplements thereto.

5. The fabricator is responsible for any additional reinforcement necessary for storage, shipping, and handling.

6. Panels, vertical and horizontal support plates and wall panel clips shall be galvanized after all fabrication is complete.

7. See sheet N-2 for panel embedment details when panels are installed behind side barriers. Wall panels shall be placed a minimum of 6" into the berm/existing ground if no side barrier protection device is utilized.

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**DEPARTMENT OF TRANSPORTATION**

**STATE OF GEORGIA**

**CONSTRUCTION DETAIL**

**SOUND BARRIER TYPE C**

**PRECAST CONCRETE PANELS**

**FILE NAME: N-5.DGN**

**FILENAME: N-5.DGN**

**NUMBER: PC-C**

**REVISED DETAIL: 08-12-13**

**REVISED WELDED WIRE FABRIC**

**REVISED NOTE: 07-30-13**

**REVISED DETAILS: 04-22-15**

**REVISED AND ADDED DETAIL: 08-14-15**

**DETAIL FOR STIFFENER PLATE**

**WALL PANEL CLIP DETAIL**

**TYPICAL SECTION THRU SOUND BARRIER PANEL**

**TYPICAL CONNECTION JOINT HORIZ.**

**FOR ALL PANELS**

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**NOTE:**

- 6" X 6" - D20 X D20, TYP. WELDED WIRE FABRIC
- 6" X 6" - D20 X D20, TYP. WELDED WIRE FABRIC
- 3" X 3" X 1/8" STIFFENER PLATE
- 6" X 6" X 1/8" STIFFENER PLATE
- 1/2" STEEL PLATE OR FLOORING
- 3/8" X 3/4" X 1/8" STIFFENER PLATE
- 2" X 6" X 6" STIFFENER PLATE
- 2'-0" SOUND BARRIER PANEL
- 2'-6" SOUND BARRIER PANEL
- 3'-0" SOUND BARRIER PANEL
- 4'-0" SOUND BARRIER PANEL
- 6'-0" SOUND BARRIER PANEL
- ELASTOMERIC PAD
- WALL PANEL CLIP DETAIL
- 1/2" ELASTOMERIC PAD
- 6" X 6" X 1/8" STIFFENER PLATE
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