

GEORGIA DEPARTMENT OF TRANSPORTATION

Plan Presentation Guide

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Document Acceptance

The following signature constitutes acceptance of this document.

A handwritten signature in blue ink, appearing to read "G. M. Ross", is written above a horizontal line.

Gerald M. Ross, P.E.

Chief Engineer

Date: _____

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PURPOSE

This document shall establish and define guidelines for plans presentation for all projects under Department oversight to assure that all plans have a consistent appearance, include all pertinent information to construct the project, and reflect high quality workmanship.

DISCLAIMER

The guidelines contained in this document are for reference only. The material contained is provided without warranty or liability of any kind to the Department. Every effort has been made to make the documentation as complete and accurate as possible to address most common Plan Presentation situations and to be without errors. Engineers and technicians must follow these guidelines and use engineering discretion in unique circumstances or those not addressed by these guidelines. Additionally, all engineers and technicians are responsible for ensuring that these guidelines are implemented accurately and that the drawings show the information completely, clearly, and legibly.

This information is provided on an "as is" basis. Updates to these guidelines will be made as needed due to any errors found in the documentation, new programs, change in software, software enhancements, or as policy and management dictate. As with any documentation or guidelines, improvements can and should be made. This document is not meant to be a complete instructional document.

Any errors found should be brought to the attention of the Department so corrections can be made. Any additional information or detailed explanation needed to this documentation should be documented and mailed to:

Plan Presentation Committee
Georgia Department of Transportation
600 West Peachtree Street, 26th Floor
Atlanta, Georgia 30308

Or email to: PPC@dot.state.ga.us

GENERAL

This document contains guidelines to be used in preparation of plans, as well as information specific to each section of a typical plan set. However, there are guidelines that are common to every section of the plans. In order to avoid repetition within each section, some of the general information that applies to all sections is contained below.

Individual Summary of Quantity Sheets: Individual Summary of Quantities sheets for plan sections requiring separate, stand-alone Summary of Quantities sheets will be submitted to the Project Manager with no drawing numbers or sheet numbers. The sheets will be placed with the Roadway Summary of Quantities (with no sheet number) as noted in the individual plan sections. The Project Manager will number the sheets before final submission of plans.

English Units: This document and the supporting CADD standard files were developed based on Projects with English Units only.

Drawing Scales:

The scales used in the production of roadway plans are as follows. The scale used is dependent on the level of detail required. The scale should remain constant throughout the plans.

Horizontal Scales:

1"=20'

1"=50'

1" = 100'

Vertical Scales:

1"=5'

1"=10'

1"=20'

Minimum Text Sizes: The minimum size for text on a set of R/W plans is to be 0.15 inches on the final D Size (24"X36") plot.

The minimum size for text on a set of Construction plans is to be 0.12 inches on the final D Size (24"X36") plot for information not included on R/W Plans.

Text information shown on the R/W plan sheets should be placed at a minimum size (0.15 X scale of plans). Plans are usually drawn at 1 inch equals 50 feet (1"=50') which should equal a text size of 7.5 feet (ie: 0.15 X 50 = 7.5) or 1 inch equals 20 feet (1"=20') which would equal a text size of 3.0 feet (0.15 X 20 = 3.0).

Current GDOT Engineering Software Versions: The current versions of major engineering software used and accepted by the Department are identified at the following link:

<http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/software/Pages/default.aspx>

Only deliverables produced by the versions of software at this link will be accepted by the Department.

GDOT Customization Tools: The GDOT Root Menu, which is accessible in Microstation, was developed to minimize common repetitive tasks of the plan sheet development process. This menu aids with compliance to the current GDOT Electronic Data Guidelines and the Plan Presentation Guide by automating many of the steps needed for reference file, linetype, and level settings.

Items included on sheets

General

Title Block - Provide a complete title block on each sheet. Layout and content of title block shall generally be as shown on the sample sheet included at the end of this Section. Place blocks for plan preparer name, address and logo along the bottom or right side of the sheet. Also included in this title block will be a drawing number. Place a block containing the State (Georgia), project number, sheet number, and total sheets in the upper right corner of the sheet.

Show the names of Route Numbers, U.S. and State, including the names of highway and roads on the plan. Do not use generic names such as "County Road", "Cross Road", etc.

Plan View (Section Numbers: 1, 13, 14, etc.)

Construction Centerline - Center in the plan portion of the sheet with increasing stationing running from left to right. In horizontal curve sections, position the construction centerline on the sheet to avoid breaks or match lines other than at normal sheet breaks.

North Arrow - Place a north arrow on each Plan Sheet at the upper part of the sheet, regardless of orientation.

Graphic Scale - Provide a numeric graphic scale.

All dimensioning and station offset labeling shall be clearly referenced.

Standard Plan Sheet Sizes: Standard GDOT full size plan sheets shall be 24"X36" with the ability to plot a half size of 11"X17" and 12"X18".

Reference material sources:

Current version as approved by the Department; List includes but not limited to:

- ["Plan Development Process"](#) (TOPPS 4050) - GDOT policies and procedures for project development
- "Manual for Erosion and Sediment Control in Georgia" - GDOT
- Uniform Code System For Soil Erosion And Sediment Control Design Guidelines
- Department's Manual On Drainage Design For Highways
- Department's Specifications For Construction of Transportation Systems
- [Department's Standards and Construction Details](#)
- Georgia State Soil And Water Conservation Commission Manual For Erosion And Sediment Control in Georgia
- "Georgia Department of Transportation Uniform Code System For Soil Erosion And Sediment Control" chart for determining the appropriate codes to use on the Erosion Control Plans. This chart is also located in the Department's Construction Details and is periodically updated.
- Department's Utility Accommodation Policy and Standards Manual (see web site)
- "Manual on Uniform Traffic Control Devices" - FHWA
- TS&D Manuals
- ["Regulations for Driveway and Encroachment Control"](#) – GDOT
- TOPPS (Transportation Online Policy and Procedure System) - GDOT policy and procedural directives.
- ["Design Policy Manual"](#) - GDOT
- "A Policy on Geometric Design of Highways and Streets" (current approved edition) - AASHTO [often referred to as the "Green Book"]
- "A Policy on Design Standards – Interstate System" - FHWA
- "Roadside Design Guide" – AASHTO
- "Standard Specifications for Road and Bridge Construction" - GDOT
- ["Georgia D.O.T. Pavement Design Manual"](#) – GDOT

Chapter 1 - CONSTRUCTION PLANS ASSEMBLY

1.1 GENERAL

Constructions plans are comprised of sections of drawings that are to be assembled in the following sequence. This plan assembly is to be used as a guide and may or may not include all the sections below based on the project.

1.2 SECTION SEQUENCE

1.2.1 Roadway Projects Section Sequence

SECTION	DESCRIPTION
01	Cover Sheet
02	Index Sheet
03	Revision Summary Sheet
04	General Notes
05	Typical Sections
06	Summary of Quantities
07	Quantities Required by Amendment Sheet
08	Quantities Required on Construction Sheet
09	Detailed Estimate Sheet
10	Traffic Diagram Sheets
11	Construction Layout Sheet/Stakeout Sheet
12	Corridor Location Map or Aerial Photo Mosaics (New Location Projects only)
13	Mainline Roadway Plan Sheets (plan & profile may be on same sheets)
14	Crossroad, Side Street, Frontage Road and Ramp Plan Sheets (plan & profile may be on same sheet)
15	Mainline Roadway Profile Sheets
16	Crossroad, Side Street, Frontage Road, and Ramp Profile Sheets
17	Driveway Profile Sheets
18	Special Grading Sheets (Sediment/Detention Basins, Parking Lots, etc...)
19	Construction Staging Plan Sheets and Staging Cross-Section Sheets

SECTION	DESCRIPTION
20	Construction Staging Details (Detours, Haul Roads, Drainage, etc...)
21	Drainage Area Map
22	Drainage Profiles
23	Cross-Sections
24	Utility Plans
25	Lighting Plans and Details
26	Signing and Marking Plans and Details
27	Signal Plans
28	ATMS/ITS Plans
29	Landscaping Plans and Details
30	Mitigation Plans (wetland, stream, etc...)
31	Retaining Wall Envelopes (Required for GDOT Standard Walls, MSE, Tie-Back, etc.)
32	Retaining Wall Plans (Required when full design is included in plan set, i.e. Cast-In-Place)
33	Noise Barrier Envelopes
34	Noise Barrier Plans*
35	Bridge Plans*
36	Bridge Culvert Plans*
37	Miscellaneous Structural Plans (Buildings, tollbooths, ice canopies, etc...)*
38	Special Construction Details (Project Specific - ADA, Special Design Drainage Structures, etc...)
39	Special Design Box Culverts
40	Construction Details
41	Georgia Standards
44	UTILITY RELOCATION PLANS – Water/Sewer, Electric, Gas, Communications, Cable
50	Erosion Control Plans – Cover Sheet
51	Erosion Control Plans – Erosion, Sedimentation and Pollution Control General Notes Sheet
52	Erosion Control Plans – Erosion Control Legend and Uniform Code Sheet
53	Erosion Control Plans – Drainage Area Map

SECTION	DESCRIPTION
54	Erosion Control Plans – Best Management Practices (BMP) Location Details
55	Erosion Control Plans – Erosion Control Watershed Map and Site Monitoring Location
56	Erosion Control Plans – Construction Standards and Details (for Erosion Control Items only)

*Structural Plans designed by the Office of Bridge and Structural Design or Structural Consultants.

Right-of-Way Plans may be included at the end of the Plan Assembly (discretion of the Project Manager)

1.2.2 Stand-Alone Projects Section Sequence

Some project plan sets are not associated with any specific roadway project. For those stand-alone project plan sets, the plans should typically include the sections marked below under each type of stand-alone project. Some sections may be optional depending on the scope of the work.

	DESCRIPTION	STAND-ALONE PROJECT PLAN SETS						
		Lighting	Mitigation	Bridge	Traffic Safety & Design	Land-scaping	Utilities	Noise Barrier
01	Cover Sheet	✓	✓	✓	✓	✓	✓	✓
02	Index Sheet	✓			✓	✓	✓	✓
03	Revision Summary Sheet	✓			✓	✓	✓	✓
04	General Notes	✓	✓**		✓	✓**	✓	✓
05	Typical Sections					✓	✓	✓
06	Summary of Quantities	✓			✓	✓	✓	✓
07	Quantities Required by Amendment Sheet	✓			✓	✓		✓
08	Quantities Required on Construction Sheet	✓			✓	✓		✓
09	Detailed Estimate Sheet	✓			✓	✓	✓	✓
10	Traffic Diagram Sheets							
11	Construction Layout Sheet/Stakeout Sheet					✓		✓

	DESCRIPTION	STAND-ALONE PROJECT PLAN SETS						
		Lighting	Mitigation	Bridge	Traffic Safety & Design	Land-scaping	Utilities	Noise Barrier
12	Corridor Location Map or Aerial Photo Mosaics (New Location Projects only)						✓	
13	Mainline Roadway Plan Sheets (plan & profile may be on same sheets)	✓						
14	Crossroad, Side Street, Frontage Road and Ramp Plan Sheets (plan & profile may be on same sheet)							
15	Mainline Roadway Profile Sheets							
16	Crossroad, Side Street, Frontage Road, and Ramp Profile Sheets							
17	Driveway Profile Sheets							
18	Special Grading Sheets (Sediment/Detention Basins, Parking Lots, etc...)					✓	✓	✓
19	Construction Staging Plan Sheets and Staging Cross-Section Sheets						✓	
20	Construction Staging Details (Detours, Haul Roads, Drainage, etc...)						✓	
21	Drainage Area Map	✓				✓		✓
22	Drainage Profiles	✓					✓	✓
23	Cross-Sections	✓					✓	✓
24	Utility Plans	✓			✓	✓	✓	✓
25	Lighting Plans and	✓					✓	✓

	DESCRIPTION	STAND-ALONE PROJECT PLAN SETS						
		Lighting	Mitigation	Bridge	Traffic Safety & Design	Landscaping	Utilities	Noise Barrier
	Details							
26	Signing and Marking Plans and Details				✓			✓
27	Signal Plans				✓		✓	
28	ATMS/ITS Plans				✓		✓	✓
29	Landscaping Plans and Details					✓	✓	✓
30	Mitigation Plans (wetland, stream, etc...)	✓				✓		✓
31	Retaining Wall Envelopes (Required for GDOT Standard Walls, MSE, Tie-Back, etc.)						✓	✓
32	Retaining Wall Plans (Required when full design is included in plan set, i.e. Cast-In-Place)					✓	✓	✓
33	Noise Barrier Envelopes						✓	✓
34	Noise Barrier Plans						✓	✓
35	Bridge Plans*						✓	
36	Bridge Culvert Plans*	✓				✓	✓	✓
37	Miscellaneous Structural Plans (Buildings, tollbooths, ice canopies, etc...)*					✓	✓	✓
38	Special Construction Details (Project Specific - ADA, Special Design Drainage Structures, etc...)					✓	✓	✓

	DESCRIPTION	STAND-ALONE PROJECT PLAN SETS						
		Lighting	Mitigation	Bridge	Traffic Safety & Design	Land-scaping	Utilities	Noise Barrier
39	Special Design Box Culverts	✓					✓	✓
40	Construction Details	✓			✓		✓	✓
41	Georgia Standards	✓			✓		✓	✓
44	UTILITY RELOCATION PLANS – Water/Sewer, Electric, Gas, Communications, Cable							
50	Erosion Control Plans – Cover Sheet	✓					✓	✓
51	Erosion Control Plans – Erosion, Sedimentation and Pollution Control General Notes Sheet	✓					✓	✓
52	Erosion Control Plans – Erosion Control Legend and Uniform Code Sheet	✓			✓***		✓	✓
53	Erosion Control Plans – Drainage Area Map	✓					✓	✓
54	Erosion Control Plans – Best Management Practices (BMP) Location Details	✓			✓***		✓	✓
55	Erosion Control Plans – Erosion Control Watershed Map and Site Monitoring Location	✓					✓	✓
56	Erosion Control Plans – Construction Standards and	✓			✓***		✓	✓

	DESCRIPTION	STAND-ALONE PROJECT PLAN SETS						
		Lighting	Mitigation	Bridge	Traffic Safety & Design	Land-scaping	Utilities	Noise Barrier
	Details (for Erosion Control Items only)							

* Structural Plans designed by the Office of Bridge and Structural Design or Structural Consultants.

** If the Landscape Plans or Mitigation Plans are a stand alone plan package, place the Utility Owner list and the “Call Before you Dig” cell in the project’s General Notes sheet.

*** To be determined by the Statewide ESPCP Design Coordinator

For all Traffic, Safety, and Design projects, show existing conditions (topo) and existing signal equipment

Right-of-Way Plans may be included at the end of the Plan Assembly (discretion of the Project Manager)

1.3 NUMBERING

1.3.1 Drawing Numbering

The construction drawings shall be labeled (in the lower right corner) according to the respective section number described in the above Section Sequence. For example: Typical Section Drawings are listed as section No. 05 of the plan assembly sequence. If you have 4 Typical Section Drawings, then they will be labeled as drawings 05-001, 05-002, 05-003, and 05-004.

1.3.2 Sheet Numbering

Sheet Numbers and Total Number of Sheets of each drawing will be labeled on the upper right corner of the plan sheet. Each sheet shall be numbered consecutively beginning with the cover sheet as No. 1 and continuing through the plan set. The total number of sheets will be shown on every sheet and will never change after the final plans have been submitted to the Office of Contracts Administration. If a sheet is added after the final plans are approved, place the sheet in the appropriate location and assign the sheet number an alpha suffix (ie: 25A).

1.4 SHEET REVISIONS

- “Use on Construction” revisions (previous drawing is replaced with a revised drawing):
 - Label as “*Use on Construction*” along the right border of drawing
 - Text should be prominent and bold
 - Place revision date in revision box

- “Void on Construction” revisions (drawing is not used in the project plan set, but is maintained in historical record as a voided sheet):
 - Label as “Void on Construction” along the right border of drawing
 - Text should be prominent and bold
 - Place revision date in revision box

Chapter 2 - CONSTRUCTION SECTION PRESENTATION**2.1 GENERAL**

Unless noted within each individual section, information specified for plans refers to Preliminary and Final submission plans. Standard cells have been created in order to automate and standardize the production of plans. The latest version of all cells is to be used.

Section 01 COVER SHEET**01.001 General**

A cover sheet is required for project identification and contract purposes. Additional cover sheets may be needed based on engineering discretion.

01.002 Required Information

- Project Owner (ie: GDOT or other entity)
- Project description
- Project number
- Project identification number (P.I. NO.)
- State and Federal route number
- County name and number
- Graphic representation of the project (including centerline and stationing)
- Congressional district(s) and percentages
- Standard note referring to GDOT Specifications
- Project location map oriented with north at the top of sheet
- Project limit stations (labeled on centerline)
- Functional classification of mainline
- Project Length Table
 - County
 - County Number
 - Net Length of Roadway
 - Net Length of Bridges
 - Net Length of Project
 - Net Length of Exceptions
 - Gross Length of Project
- Design Traffic Data of mainline and crossroads (as appropriate)
 - Base Year Traffic (two-way) – Traffic A.D.T.
 - Design Year Traffic (two-way) – Traffic A.D.T.
 - Directional Hourly Volume (Future year) – Traffic D.H.V.
 - Directional distribution (%)
 - Truck percentages
 - Truck percentages (24 hour)
 - Speed design (MPH)

- Revision Summary Table (date and sheet number)
- Road names and route numbers (including County Road # (CR#) or City Street # (CS#))
- Project (approximate) midpoint station (to nearest foot) and coordinates
- Project designation (e.g.: F.O.S., Exempt or S.F.)
- Horizontal and vertical datum used
- Chief Engineer signature and date box
- Recommended for approval signature and date box (Office Head, District Engineer, Maintenance Engineer, etc.)
- Designation for “Plans prepared by”
- Location & Design approval date
- Plans completed date (date submitted to Contracts)
- Professional Engineer's stamp and signature (Consultant final submittal plans only)

01.003 Project-Specific Information

- Topography**
- Equalities on mainline
- Begin and end bridge stations (labeled on centerline)
- Rivers and stream names
- State Lines, County Lines, City Limits, Land Lot Lines, GMD
- Existing property lines**
- Parcel numbers**
- Required right-of-way lines**
- Median locations and sidewalks**
- Stations of Crossroad and Mainline at intersection
- Railroad lines and owner name
- Major utility facilities (ie: transmission lines, substations, pipelines, etc.)

**Optional and to be reflected at the discretion of the Project Manager

01.004 Sheet Layout

Section 02 INDEX SHEET**02.001 General**

The index sheet is required for each set of construction drawings to identify plan contents. The index shall be included as a separate sheet. The index should only list sheets required for the project. Drawings shall be grouped according to the Sequence of Plans.

02.002 Required Information

The index sheet includes the following columns:

- Sheet Numbers
- Drawing Numbers (Not required for Construction Standards and Details)
- Drawing description

The index sheet shall also contain the following required information:

- Total number of sheets
- Construction Standards and Details listed individually, including latest revision date

When plans are submitted to Contracts, the “Total Sheets” note must be shown in the index table. This number may change as plan sheets are added or deleted through revisions and may not be the same as the number shown in the upper right corner of each plan sheet.

02.003 Sheet Layout

Section 03 REVISION SUMMARY SHEET**03.001 General**

Revisions to a set of construction plans should be detailed for the purpose of keeping a record of changes to the construction plans, including additions and deletions, after final plans have been submitted to Contracts Administration.

03.002 Required Information

The revision summary sheet will consist of three columns (in addition to the normal project information in the title blocks). The first column states the date on which the revision was made; the second column references the sheet number of the revision in the plan set; and the third column contains a description of the revision, described in enough detail to quickly understand the nature of the revision.

03.003 Sheet Layout

Section 04 GENERAL NOTES**04.001 General**

Project plan information should be included in the construction plans utilizing a general note sheet. This sheet is to be divided into two sections:

Project Notes - Notes that are project specific and are not covered under the current Standard Specifications and Supplemental Specifications, Special Provisions, Georgia Standard Drawings, and/or Special Details.

Notes - Notes that are needed in the construction contract may be included in the General Notes sheet if special attention is necessary to eliminate a possible source of errors or conflict, or to expedite the work.

04.002 Required Information

Provide the following notes in the General Notes:

- Place the “B4UDIG” cell
- State if the project requires a Notice of Intent (NOI).
- Include the Pipe Culvert Materials Alternate Chart as provided in the Soils Report.
- Provide the respective Utility/Railroad Owner list and notes on all projects
- Method of Utility Location (SUE Investigation or not)

04.003 Sheet Layout**04.004 Miscellaneous**

Project specific notes required as needed. Example: If there is a bridge to be removed a note will be included to specify if any material from the bridge will be salvaged and if there is a suitable site within the projects limits to dispose of non-salvaged materials.

Section 05 TYPICAL SECTIONS

05.001 General

Typical sections should be developed during the conceptual and early preliminary design and shall be drawn in the form of cross sectional views depicting standard or typical work within certain station-to-station limits. Typical sections should show typical conditions only. Specific dimensions, cross-slopes, and other design information shall be depicted in the Construction Plans and Cross Sections.

Separate typical sections should be shown for tangent, superelevated, full-depth pavement, overlay pavement, mainline, ramps, cross streets, detour and temporary tie-in sections. Include partial sections or miscellaneous details (ex. guardrail, retaining walls, treatment of turn lanes, bike lanes special shoulder or grading sections, etc.) as needed. When partial sections are necessary to cover details, place these sections near the main typical section to which they apply.

See the [Georgia D.O.T. Pavement Design Manual](#) for additional typical section guidelines and details.

05.002 Required Information

The typical section sheets shall include the following:

- **Scale:** No specific scale is required. An appropriate scale shall be used to clearly illustrate the full sectional view. Further, the vertical scale of pavement courses shall be exaggerated to clearly indicate individual courses.
- **Pavement:** Paving and base courses shall be clearly defined and shall comply with the approved pavement design. The mix design, spread rate and bid item description for each asphaltic concrete course shall be labeled, and the thickness and bid item description for all other materials shall be labeled as depicted in the sample typical sections. Asphaltic concrete leveling shall be indicated where existing pavement is retained and overlaid. The intent and limits of grinding and milling shall be indicated on the typical sections when required by the design.
- **Cross Slopes and Shoulder Slopes:** The cross slopes of roadway pavement, shoulders, sidewalks, raised medians and bridge decks shall be labeled with percentages and directional arrows. For superelevated sections, label the cross-slope as SE in percent. Slopes beyond shoulder break points shall be labeled as ratios, horizontal to vertical (e.g., 10:1, 4:1, 2:1).
 - **Slope Control Table:** The “Slope Control Table” included in the EDG cell library may be included to specify the front and back slopes for corresponding cuts and heights of fill as a guide for the Field Engineer to follow should site specific conditions require variation from the proposed cross-sections.
 - **Allowable Range Table:** The “Allowable Range Table” included in the EDG Cell Library may be included on the typical sections when allowing variation from the design superelevation to better match existing pavement slopes as deemed appropriate by the Project Manager.

- **Lane and Shoulder Widths:** Lane and shoulder widths shall be labeled on the typical sections to the nearest inch. Minimum and maximum dimensions of variable-width features shall be labeled.
- **Guardrail:** Standard guardrail details for both urban and rural designs are provided in the EDG cell library.
- **Curbs:** The curb and gutter width and type shall be labeled. Gutter slope and direction shall be illustrated as required for the drainage design.
- **Sidewalks:** The sidewalk width, location, thickness and cross-slope shall be labeled on typical sections.
- **Typical Section Numbers:** Each typical section shall be labeled with a consecutive typical section number.
- **Station Ranges:** Show station ranges and road name below each typical section. Do not break-out the station range of the superelevated section.
- **Geometrics:** The construction centerline, profile grade line (PGL), and superelevation (S.E.) rotation point shall be labeled.
- **Medians:**
 - Raised median width, thickness, cross-slope, and type (doweled, grass, etc.) shall be labeled.
 - Depressed median slope, width and ditch locations/parameters shall be labeled.
- **Ditches:** The width of front-slopes and ditches shall be labeled.
- **Miscellaneous:** The station range of any site specific conditions that require special fill material or pavement structure alterations shall be noted on the applicable typical section.

05.003 Sheet Layout

Place typical sections in order as they will be used along the alignment. Typical Sections for side roads shall follow the mainline Typical Sections. If possible, the tangent sections and the related superelevated sections shall be located on the same sheet.

05.004 Miscellaneous Notes & Other Information

Include the following notes, when applicable, on the typical section sheets:

- See roadway plans for superelevation rates and transitions.
- See roadway plans for location of guardrail.
- See roadway plans for location of curb and gutter.
- Shoulder may be graded away from roadway to facilitate the slope tie to existing ground.

Include the following information, when applicable, on the typical section sheets:

- A detail showing underdrain pipe at curbed medians (grassed) - located at the lowest end of the median - should be shown, when required.
- The Pavement Reinforcing Fabric detail included in the EDG Cell Library shall be included for widening projects. Flagging the location of the reinforcement fabric on individual typical sections is not required.

- Rumble strip type and location shall be shown on the typical sections.
- All special details from the Soils Report not covered by GDOT Standards and Details shall be included in the typical sections.
- The Driveway Reconstruction detail included in the EDG Cell Library shall be included in the typical sections to show the pavement types and thicknesses for reconstruction of both residential and commercial driveways as well as normal driveway widths.
- Temporary pavement

Section 06 SUMMARY OF QUANTITIES**06.001 General**

All items of construction indicated on the plan, profile, and cross section sheets (including drainage) are to be reflected on the summary sheets unless it is included in the cost of another item. However, bridge items will not be included in the project's Summary of Quantities sheets.

Quantities not providing any additional detail than what is on the Detail Estimate (such as Lump Sum) do not need to be included. However, the following must be included at a minimum: Base and paving, drainage, sign, marking, signals, guardrail, and driveways. Other quantity items requiring detail (ie: size, location, type, etc.) shall be included in the project's Summary of Quantities sheets.

Itemized quantities and locations shall be shown on the Summary of Quantities Sheet. On contracts with multiple project numbers or Federal-aid and non-Federal-aid quantities, tabulate and summarize quantities by project number.

06.002 Required Information

Each summary box shall contain a total for each item description and be grouped the same way as the Detail Estimate.

Pavement Items:

- Item description
- Unit
- Quantity by alignment (ie: mainline, crossroads, ramps, detours/staging, etc.)

Signing:

- Station
- Side of road
- MUTCD Sign Code
- Sheeting Item
 - Size
 - Quantity per each
 - Square Feet
- Unit
- Post Item
 - Type
 - Length
 - Quantity
 - Total length
- Unit
- Signing general notes

Marking:

- Item description
- Unit
- Location
- Quantity/Unit

Signals:

- Item description
- Unit
- Location
- Quantity/Unit
- Traffic Signal general notes

Guardrail/Barrier:

- Type
- Type of end treatment
- Unit
- Station range
- Side
- Quantity/Unit

Driveways:

- Station
- Side
- Width
- Length
- Surfacing
- Quantity/Unit

Drainage:

- Structure Number
- Item description
- Unit
- Quantity
- Location

Permanent Erosion Control:

- Item description
- Quantity/Unit

Temporary Erosion Control:

- Item description
- Quantity/Unit

Ditch Protection:

- Item description
- Quantity/Unit
- Station
- Side

Lighting/ATMS/Landscaping:

- Item description
- Quantity/Unit
- Station
- Side

Notes, if required, are to be placed under the corresponding quantity boxes. Each note shall consist of special requirement regulations, or directions prepared to cover the work that is not covered by the Specifications or for general information.

Add references to Georgia Standards or Construction Details to summary boxes as appropriate.

06.003 Sheet Layout

The designer shall place the summary boxes in order to agree with the Detail Estimate from left to right and top to bottom and grouped to specific headings in the Detail Estimate (ie: Roadway Items, Erosion Control, etc.). Summary box headings shall agree with the pay item description in the Detail Estimate.

Place related items in the same summary box. Example: spillways adjacent to approach slabs should have the slope drain, pipe, and concrete aprons in the same box with the approach slab. Other items may include guardrail/guardrail anchors, fence/gates, etc.

Box culverts and related items including outlet/inlet protection shall not be included in the Summary of Drainage Quantities but in a separate summary box.

Section 07 QUANTITIES REQUIRED BY AMENDMENT SHEET**07.001 General**

This sheet is used for quantities that are added or changed by an amendment.

07.002 Required Information

- Project Number
- P.I. Number
- County
- Date
- Item Number
- Amendment Date
- Amendment Number
- Description
- Units
- Original quantity
- Revised quantity

07.003 Sheet Layout

Section 08 QUANTITIES REQUIRED ON CONSTRUCTION SHEET**08.001 General**

This sheet is used for quantities that are added or changed by a revision during construction.

08.002 Required Information

- Project Number
- P.I. Number
- County
- Date
- Item Number
- Description
- Units
- Original quantity
- Previous quantity
- Revised quantity

08.003 Sheet Layout

Section 09 DETAILED ESTIMATE SHEET**09.001 General**

All pay items required to construct the project shall be reflected on the Detailed Estimate sheet in a tabular format.

09.002 Required Information

- Pay item number
- Description
 - Stated exactly as reflected in the Bid Item Index
 - Additional information as required by pay item (i.e.: station values, project number, specific size, material type, etc.)
- Units
- Quantity for each pay item

09.003 Sheet Layout

Quantities should be shown on the detailed estimate as whole units. Guidance for rounding may be found in the Design Policy Manual

([http://www.dot.state.ga.us/dot/preconstruction/r-o-a-d-s/DesignPolicies/documents/pdf/Design Policy Manual.pdf](http://www.dot.state.ga.us/dot/preconstruction/r-o-a-d-s/DesignPolicies/documents/pdf/Design%20Policy%20Manual.pdf)).

The Detailed Estimate Sheet shall list each pay item used in the project arranged in numerical order. A recommended grouping of items in making the Detailed Estimate is as follows:

- Roadway Items
 - Pavement alternates with applicable striping (if applicable)
- Utility related contract items
- Lighting
- Signing and Marking
- Signal Items
- ATMS
- Landscaping
- Weather Monitoring Station
- Retaining Walls and Alternates (each wall listed separately)
- Bridge Items (each bridge listed separately)
- Concrete Bridge Culvert Items (each bridge culvert listed separately)
- Erosion Control - Temporary
- Erosion Control - Permanent

09.004 Miscellaneous

Section 10 TRAFFIC DIAGRAM SHEETS**10.001 General**

This sheet provides all traffic movements and volumes for the project.

10.002 Required Information

- Schematic
- Directional Hourly Volumes (DHV) – AM and PM Peak Design Year
- Average Annual Daily Traffic (AADT) – Base and Design Year
- Percent Trucks
 - 24 Hour Trucks
 - Single Unit
 - Combo
- Street Names
- North arrow

10.003 Sheet Layout

Section 11 CONSTRUCTION LAYOUT SHEET/STAKEOUT SHEET**11.001 General**

The Construction Layout/Stakeout Sheet provides construction alignment information concisely on one or multiple plan sheets. This sheet may not be required on small projects.

11.002 Required Information

- Construction alignments
- Stationing with tic marks
- Bearings
- Curve labels
- Curve data
 - CURVE Number
 - P.I. Station
 - P.I. Coordinates
 - Δ or “DELTA” (Deflection angle)
 - D (Degree of Curve)
 - T (Tangent Length)
 - L (Length of Curve)
 - R (Radius)
 - E (External distance)
 - e (Superelevation in percent)
- Roadway names
- Equalities
- Begin and end project
- Alignment intersection stations and angles
- Begin and end construction stations
- Survey control points and benchmarks with description, northing and easting coordinates, and elevation.
- North Arrow
- Match line and text (if more than one sheet is required)

Construction plan sheet boundaries and drawing numbers may be shown to assist in clarifying plan sheet layout.

11.003 Sheet Layout

The construction layout/stakeout sheet is placed on a typical construction plan sheet border at an appropriate scale to maximize the plan sheet area.

Section 12 CORRIDOR LOCATION MAP or AERIAL PHOTO MOSAICS (New Location Projects Only)**12.001 General**

The Corridor Location Map provides a photographic view of a new location roadway by superimposing the roadway onto the most recent photography available. The map is also intended to show at a large scale the proximity of community and other topographic features beyond the immediate roadway limits but near (within a 1.0+/- mile) the new roadway. Community features include but are not limited to churches, schools, libraries, parks, government buildings, lakes, streams, neighborhoods, businesses, cemeteries.

12.002 Required Information

- Photographs at 1"=500 feet scale (can vary per project)
- New roadway alignment, bridges and edge of pavement (not labeled)
- Major Roadway names
- Environmental features noted in the environmental document (labeled)

12.003 Sheet Layout

The Corridor Location Map drawing is placed on a typical construction plan drawing border.

Section 13 MAINLINE ROADWAY PLAN SHEETS

13.001 General

Roadway plan sheets depict all details of the project's features in a horizontal or plan view. They may also be presented in conjunction with the corresponding profile on the lower half of the sheet (split plan/profile sheet). The roadway plans shall show in detail what is to be constructed and where the project will be constructed.

The roadway plan sheets show what an area looks like before (existing) and after (proposed) construction of the project.

13.002 Required Information

The existing information shown should include:

- Large roadway signs
- Roadway items
- Driveways (with existing material)
- Buildings / Structures
- Drainage (including streams, ponds, lakes, ditches, special ditches, and storm drain pipes all with size, material type, and flow arrows)
- Above ground utility features including utility structure and appurtenance locations (i.e. poles, valves, manholes/vaults, telephone pedestals)
- NOTE: Existing utility lines, mains, and pipes are not shown on the Roadway Plan Sheets
- Retaining walls
- Other paved areas
- Gravel surfaces
- Fences
- Bridges
- Wooded areas (including tree lines or obscured areas)
- Trees (specific to parcel or design issues)
- Underground storage tank caps within the limits of the topographic survey
- Groundwater wells with indication to be plugged or remain in service
- Existing right-of-way and easement lines with labels
- Property lines with labels
- Land lot lines with labels
- Land District lines with labels
- Georgia Militia District (GMD) lines with labels
- Railroads
 - Right of way lines with labels
 - Tracks
 - Names
 - Mileposts
 - Warning devices
 - Crossing ID numbers

- Utility easement lines with labels
- City, county, and state boundaries with labels
- Existing L/A – Limited Access lines with labels (Begin “BLA” and End “ELA” if applicable)
- Wetlands
- Historic boundaries
- Waters of the U.S
- Environmentally Sensitive Areas (ESA’s)
- All other pertinent physical features (i.e.: property owner entrance signs, business/residential signs, etc.)

Proposed Design Features shall include:

- Begin/End Project Stations to the nearest foot (i.e. 1010+27) (mainline)
- Begin/End Construction Stations to the nearest 100th (i.e. 1010+26.25) (mainline)
- Limit of Construction Station to the nearest 100th (i.e. 1010+26.25) (crossroad)
- Alignments
 - Stations progressing from west to east and from south to north
 - PC/PT (SC/CS, TS/ST) Stations
 - Bearings
 - Road names
 - Stationing and primary tic marks every 500 feet and secondary tic marks every 100 feet (frequency can be increased) for 1”=50’ to the even station (i.e. 12+30)
 - Stationing and primary tic marks every 100 feet and secondary tic marks every 50 feet for 1”=20’ to the even station (i.e. 12+30)
 - Curve number
 - Equalities with back and ahead stations
 - Stations where centerline crosses county boundaries
- Curve Data Table (not required when [Section 11](#) is included)
 - CURVE Number
 - P.I. Station
 - P.I. Coordinates
 - Δ or “DELTA” (Deflection angle)
 - D (Degree of Curve)
 - T (Tangent Length)
 - L (Length of Curve)
 - R (Radius)
 - E (External distance)
 - e (Superelevation in percent)
- Angle and station of intersection
- Edges of pavement
- Curb and Gutter
- Sidewalk
- Paved Shoulder
- Ditches
 - Material must be labeled if other than grass
 - Begin/End labels for berm and special ditches

- Guardrail/Barriers
 - Label guardrail type
 - Label anchor type
 - Label barrier type
 - Begin and end stations for guardrail/barrier
- Walls
 - Begin and end stations for retaining walls
- Noise Barrier
 - Begin and end stations for noise barrier
- Drainage
 - Structures (structure number)
 - Storm Drains (size and direction)
 - Side Drains (driveway pipes)
 - Culverts (width (feet) X height (feet))
 - Permanent erosion features (i.e. type of rip-rap, concrete aprons, concrete flumes, spillways)
 - Inlet/Outlet Structures
- Bridges
 - Begin/End Stations
 - Intersecting stations and angles
- Approach slabs (stationing label not required)
- Construction limits (cut/fill line with cut/fill designations)
- Railroad facility adjustments
- NOTE: If this work is not to be included in the roadway contract, then clearly indicate on the plans that this work is to be done “By Others”.
- Strain poles
- Limits of pavement work (i.e. limits of resurfacing, pavement removal, widening, full-depth, overlay, milling, reconstruction, etc.)
- Survey control points (not required when [Section 11](#) is included)
- Permanent detention ponds
- All temporary sediment basins and permanent detention/retention basins
- Superelevation transition stationing
 - Both Percent SE and “NC” - Normal Crown (station plus)
 - Both Percent SE and “FLAT” - Zero Crown (station plus)
 - Both Percent SE and “RC” - Reverse Crown (station plus)
 - Both Percent SE and “BFS” - Begin Full Superelevation (station plus)
 - Both Percent SE and “EFS” - End Full Superelevation (station plus)
- Dimensions to reflect the proposed construction
 - Roadway dimensions
 - Radii dimensions
 - Taper stations and dimensions from alignment
 - Pavement widths
 - Median widths
 - End of curb and gutter station on side streets
- Driveways (including dimension)
- Matchlines (including station and drawing number)

- Legend
- Proposed Right-of-Way Features
 - Required right-of-way lines and labels
 - Easement lines and associated patterns
 - Property Owner name and parcel number of all affected parcels
 - If RW plans are not included, full station and offset of all required right-of-way, and easement (temporary, permanent and driveway) points or point numbers with station and offset information labeled elsewhere or preferably on the same sheet
 - Proposed right-of-way markers at locations where RW direction changes (including PC/PT locations)
 - Begin/End Limited Access
- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

13.003 Sheet Layout

For a plan scale of 1” = 50’, place match lines between sheets at even 100 feet intervals with a maximum coverage per sheet of 1500 feet. For a plan scale of 1” = 20’, place match lines at even 50 feet intervals with a maximum coverage per sheet of 600 feet. The first and last plan sheets may be exceptions in each case.

13.004 Miscellaneous

Specific notes pertaining to project requirements as identified from various sources, including, but not limited to, soil survey, UST report, Environmental Green Sheet, Utility Agreement, RW Agreement, etc.

Intersection and Interchange Detail Sheets

Intersection detail sheets are required if additional details necessary for proper construction of items at road intersections cannot be clearly shown on the regular roadway plan sheets. In limited cases, it may be possible to show necessary intersection details as an inset on the regular roadway plan sheet in lieu of preparation of a separate sheet.

Intersection detail sheets if required shall be placed at the end of the mainline plan sheets.

In addition to the information shown on the plan sheet, the following information is to also be shown on the Detail Sheet.

- **Grading Information**
Elevations along edges of pavement at specific locations (e.g. along a radius return) and also at an acceptable interval should be provided throughout the intersection. In some cases it may be desirable to provide an overall intersection grading plan (proposed contours) in order to properly detail cross slope transitions and drainage requirements.
- Completely dimension and station the intersection details, including pavement widths, curb and median radii, radius returns, horizontal location of raised medians, center of median and/or channelization openings, lane tapers, etc.

Section 14 CROSSROAD, SIDE STREET, FRONTAGE ROAD AND RAMP PLAN SHEETS

14.001 General

Crossroad plan sheets depict all details of the project's features in a horizontal or plan view. They may also be presented in conjunction with the corresponding profile on the lower half of the sheet (split plan/profile sheet). The crossroad plans shall show in detail what is to be constructed and where the project will be constructed.

The crossroad plan sheets show what an area looks like before (existing) and after (proposed) construction of the project.

14.002 Required Information

The existing information shown should include:

- Large Roadway Signs
- Roadway items
- Driveways (with existing material)
- Buildings / Structures
- Drainage (including streams, ponds, lakes, ditches, special ditches, and storm drain pipes all with size, material type, and flow arrows)
- Above ground utility features including utility structure and appurtenance locations (i.e. poles, valves, manholes/vaults, telephone pedestals)
NOTE: Existing utility lines, mains, and pipes are not shown on the Roadway Plan Sheets
- Retaining walls
- Other paved areas
- Gravel surfaces
- Fences
- Bridges
- Wooded areas (including tree lines or obscured areas)
- Trees (specific to parcel or design issues)
- Underground storage tank caps within the limits of the topographic survey
- Groundwater wells with indication to be plugged or remain in service
- Existing right-of-way and easement lines with labels
- Property lines with labels
- Land lot lines with labels
- Land District lines with labels
- Georgia Militia District (GMD) lines with labels
- Railroads
 - Right of way lines with labels
 - Tracks
 - Names
 - Mileposts
 - Warning devices

- Crossing ID numbers
- Utility easement lines with labels
- City, county, and state boundaries with labels
- Existing L/A – Limited Access lines with labels (Begin “BLA” and End “ELA” if applicable)
- Wetlands
- Historic boundaries
- Waters of the U.S
- Environmentally Sensitive Areas (ESA’s)
- All other pertinent physical features (i.e.: property owner entrance signs, business/residential signs, etc.)

Proposed Design Features shall include:

- End Construction Station to the nearest foot (i.e. 1010+27) (crossroad)
- Alignments
 - Stations progressing from west to east and from south to north
 - PC/PT (SC/CS, TS/ST) Stations
 - Bearings
 - Road names
 - Stationing and primary tic marks every 500 feet and secondary tic marks every 100 feet (frequency can be increased) for 1”=50’ to the even station (i.e. 12+30)
 - Stationing and primary tic marks every 100 feet and secondary tic marks every 50 feet for 1”=20’ to the even station (i.e. 12+30)
 - Curve number
 - Equalities with back and ahead stations
 - Stations where centerline crosses county boundaries
- Table (not required when [Section 11](#) is included)
 - CURVE Number
 - P.I. Station
 - P.I. Coordinates
 - Δ or “DELTA” (Deflection angle)
 - D (Degree of Curve)
 - T (Tangent Length)
 - L (Length of Curve)
 - R (Radius)
 - E (External distance)
 - e (Superelevation in percent)
- Angle and station of intersection
- Edges of pavement
- Curb and Gutter
- Sidewalk
- Paved Shoulder
- Ditches
 - Material must be labeled if other than grass
 - Begin/End labels for berm and special ditches
- Guardrail/Barriers

- Label guardrail type
- Label anchor type
- Label barrier type
- Begin and end stations for guardrail/barrier
- Walls
 - Begin and end stations for retaining walls
- Noise Barrier
 - Begin and end stations for noise barrier
- Drainage
 - Structures (structure number)
 - Storm Drains (size and direction)
 - Side Drains (driveway pipes)
 - Culverts (width (feet) X height (feet))
 - Permanent erosion features (i.e. type of rip-rap, concrete aprons, concrete flumes, spillways)
 - Inlet/Outlet Structures
- Bridges
 - Begin/End Stations
 - Intersecting stations and angles
- Approach slabs (stationing label not required)
- Construction limits (cut/fill line with cut/fill designations)
- Railroad facility adjustments
- NOTE: If this work is not to be included in the roadway contract, then clearly indicate on the plans that this work is to be done “By Others”.
- Strain poles
- Limits of pavement work (i.e. limits of resurfacing, pavement removal, widening, full-depth, overlay, milling, reconstruction, etc.)
- Survey control points (not required when [Section 11](#) is included)
- Permanent detention ponds
- All temporary sediment basins and permanent detention/retention basins
- Superelevation transition stationing
 - Both Percent SE and “NC” - Normal Crown (station plus)
 - Both Percent SE and “FLAT” - Zero Crown (station plus)
 - Both Percent SE and “RC” - Reverse Crown (station plus)
 - Both Percent SE and “BFS” - Begin Full Superelevation (station plus)
 - Both Percent SE and “EFS” - End Full Superelevation (station plus)
- Dimensions to reflect the proposed construction
 - Roadway dimensions
 - Radii dimensions
 - Taper stations and dimensions from alignment
 - Pavement widths
 - Median widths
 - End of curb and gutter station on side streets
- Driveways (including dimension)
- Matchlines (including station and drawing number)
- Legend

- Proposed Right-of-Way Features
 - Required right-of-way lines and labels
 - Easement lines and associated patterns
 - Property Owner name and parcel number of all affected parcels
 - If RW plans are not included, full station and offset of all required right-of-way, and easement (temporary, permanent and driveway) points or point numbers with station and offset information labeled elsewhere or preferably on the same sheet
 - Proposed right-of-way markers at locations where RW direction changes (including PC/PT stations)
 - Begin/End Limited Access
- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

14.003 Sheet Layout

For a plan scale of 1” = 50’, place match lines between sheets at even 100 feet intervals with a maximum coverage per sheet of 1500 feet. For a plan scale of 1” = 20’, place match lines at even 50 feet intervals with a maximum coverage per sheet of 600 feet. The first and last plan sheets may be exceptions in each case.

14.004 Miscellaneous

Specific notes pertaining to project requirements as identified from various sources, including, but not limited to, soil survey, UST report, Environmental Green Sheet, Utility Agreement, RW Agreement, etc.

Intersection and Ramp Terminal Detail Sheets

Intersection or ramp detail sheets are required if additional details necessary for proper construction of items at road intersections cannot be clearly shown on the regular roadway plan sheets. In limited cases, it may be possible to show necessary intersection details as an inset on the regular roadway plan sheet in lieu of preparation of a separate sheet.

Intersection detail sheets if required shall be placed at the end of the crossroad plan sheets.

In addition to the information shown on the plan sheet, the following information is to also be shown on the Detail Sheet.

- **Grading Information**
Elevations along edges of pavement at specific locations (e.g. along a radius return) and also at an acceptable interval should be provided throughout the intersection. In some cases it may be desirable to provide an overall intersection grading plan (proposed contours) in order to properly detail cross slope transitions and drainage requirements.
- Completely dimension and station the intersection details, including pavement widths, curb and median radii, radius returns, horizontal location of raised medians, center of median and/or channelization openings, lane tapers, etc.

Section 15 MAINLINE ROADWAY PROFILE SHEETS**15.001 General**

The Roadway Profile sheets depict the existing ground (or profile grade) and the proposed profile grade for the mainline. The most important data is the proposed profile or the "profile grade line" (PGL), which is typically along the centerline of the horizontal alignment or as shown on the typical section. All stations and elevations will be labeled to two decimal places unless otherwise noted.

Use the same horizontal scale for the profile as that used for the plan sheets. Typically, the vertical scale is a ratio of the horizontal at a factor of 5:1 for a 50 scale and 4:1 for a 20 Scale drawing.

15.002 Required Information

- "Begin Construction" label
- "End Construction" label
- Grades for all tangents along the PGL in percentage to four (4) decimal place accuracy
- Point of Vertical Intersection (PVI) with station and elevation
- Point of Vertical Curvature (PVC) with station and elevation
- Point of Vertical Tangency (PVT) with station and elevation
- Low Point with station and elevation
- High Point with station and elevation
- Vertical Curve Data
 - Curve length
 - "K" factor
- Back and ahead station and elevation for equalities if applicable
- All intersecting streets
 - Street name
 - Station on the mainline
 - Station on the intersecting street
 - Elevation
- Major cross-drains greater than or equal to 48"
- All grade separations with clearances (ie: bridges over roadway, etc.)
- Proposed bridges with begin and end stations
- Intersecting railroad track elevations and stations
- Existing ground
- Proposed ground
- Even Stations every 50 feet
- Elevations of existing ground (along Construction centerline) and proposed ground (along Profile Grade Line(s)) at appropriate intervals

15.003 Sheet Layout

Stationing on profile sheets shall agree with stationing on plan sheets.

Single, double, or plan and profile sheets are acceptable. If the sheet is double, the lowest station range should be on the top of the sheet. Once a determination whether to go with single or double profiles has been made for a project, all the sheets shall be in the same format.

Section 16 CROSSROAD, SIDE STREET, FRONTAGE ROAD, AND RAMP PROFILE SHEETS

16.001 General

The Roadway Profile sheets depict the existing ground (or profile grade) and the proposed profile grade for the ramps, side roads or streets. The most important data is the proposed profile or the "profile grade line" (PGL), which is typically along the centerline of the horizontal alignment or as shown on the typical section. All stations and elevations will be labeled to two decimal places unless otherwise noted.

Use the same horizontal scale for the profile as that used for the plan sheets. Typically, the vertical scale is a ratio of the horizontal at a factor of 5:1 for a 50 scale and 4:1 for a 20 Scale drawing.

16.002 Required Information

- "Begin Construction" label
- "End Construction" label
- Grades for all tangents along the PGL in percentage to four (4) decimal place accuracy
- Point of Vertical Intersection (PVI) with station and elevation
- Point of Vertical Curvature (PVC) with station and elevation
- Point of Vertical Tangency (PVT) with station and elevation
- Low Point with station and elevation
- High Point with station and elevation
- Vertical Curve Data
 - Curve length
 - "K" factor
 - Design Speed
- Back and ahead station and elevation for equalities if applicable
- All intersecting streets
 - Street name
 - Station on the mainline
 - Station on the intersecting street
 - Elevation
- Major cross-drains greater than or equal to 48" (All cross-drains if Section 22 omitted)
- All grade separations with clearances (ie: bridges over roadway, etc.)
- Proposed bridges with begin and end stations
- Intersecting railroad track elevations and stations
- Existing ground
- Even Stations every 50 feet
- Elevations of existing ground (along Construction centerline) and proposed ground (along Profile Grade Line(s)) at appropriate intervals

16.003 Sheet Layout

Stationing on profile sheets shall agree with stationing on plan sheets.

Single, double, or plan and profile sheets are acceptable. If the sheet is double, the lowest station range should be on the top of the sheet. Once a determination whether to go with single or double profiles has been made for a project, all the sheets shall be in the same format.

Section 17 DRIVEWAY PROFILE SHEETS**17.001 General**

Driveway Profile sheets reflect the grade and length of the tie-in of all driveways.

17.002 Required Information

- Roadway station where the driveway is located
- Direction (right or left) from the roadway under the profile
- Length of Vertical Curve
- Proposed Grades
- Existing ground
- Tie-in station

17.003 Sheet Layout

The scales are typically consistent with the cross-sections. Start the stationing for the driveway profile with 0+00 at the centerline of the roadway which the driveway intersects. Stations are placed along the bottom of the profile and the index elevations along both sides. Arrange as many profiles as practical on each sheet with the lowest station value in the lower left hand corner continuing up the sheet and, if there is space still available, "stack" the next adjacent column of profiles in the same manner.

Section 18 SPECIAL GRADING SHEETS

18.001 General

Special Grading Sheets are used as supplemental detail sheets for detailing special grading needs. These sheets are typically used to show grading of sediment/detention basins, parking lots, intersection grading, etc. These are used in addition to the construction plan sheets and provide room and flexibility for detailing, which would otherwise result in clutter on the construction plan sheet. These should be shown if it would affect the construction process or aid in the understanding of the desired design.

18.002 Required Information

- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

Detention Basin - Delineate the detention basin, if required, including the outlet structure and the end point of the drainage system for a particular project. Show the detention basin detail sheet in plan view with proposed contours, side slopes, fence locations, right-of-way, basin drainage structures with their locations and profiles, outlet structure details including weir/orifice arrangement and any other necessary data pertaining to the basin. Include typical basin sections on the same plan sheet.

18.003 Sheet Layout

The scale of the sheet needs to be consistent with the level of detail required.

Section 19 CONSTRUCTION STAGING PLAN SHEETS AND STAGING CROSS-SECTION SHEETS

19.001 General

The Construction Staging Plans are developed to show one method to construct the project, while accommodating the movement of traffic through the construction work zone. The staging plans are to show, as a minimum, where the flow of traffic is located, the area being constructed, and any temporary construction or pavement. The detail of the plans will depend on the complexity of the project. Signing and Marking for Traffic Control Plans are required for special conditions.

The following standard linestyles are provided and are to be used where applicable on all staging plans such that there is consistency and uniformity on all project staging plans produced by the Department. Any other designations for staging details are prohibited from being used, including shading. The linestyles are provided as a standard, but the extent of their use on projects will be at the discretion of the Project Manager.



LEGEND

<p>1 PAVEMENT REMOVAL</p> <p>2 TEMPORARY CONSTRUCTION PAVEMENT</p> <p>3 PERMANENT CONSTRUCTION</p> <p>4 CONCRETE MEDIAN CONSTRUCTION</p> <p>5 MILL & OVERLAY CONSTRUCTION</p> <p>OPEN LANES OF TRAFFIC</p>	
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19.002 Required Information

- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”

- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

Notes/Narrative

- A narrative of the sequence of construction and means of accommodating traffic for each stage
- The narrative is to be delineated on the plans according to each stage
- Legend

For each construction stage, show the following:

Plan Sheets

- Construction centerline
- Existing and proposed pavement edges
- Proposed curb lines
- Access openings
- Intersections
- Existing and proposed storm drainage and culverts
- Major drainage structure to be constructed
- Traffic flow patterns
- Lane widths
- Areas of Temporary/Required Construction
- Locations of temporary barriers
- Temporary drainage structures
- Taper lengths and dimensions for temporary features

Profile Sheets

- Grades for all tangents along the PGL in percentage to four (4) decimal place accuracy
- Point of Vertical Intersection (PVI) with station and elevation
- Point of Vertical Curvature (PVC) with station and elevation
- Point of Vertical Tangency (PVT) with station and elevation
- Low Point with station and elevation
- High Point with station and elevation
- Vertical Curve Data
 - Curve length

- "K" factor
- Design Speed
- Back and ahead station and elevation for equalities if applicable
- All intersecting streets
 - Street name
 - Station on the mainline
 - Station on the intersecting street
 - Elevation
- Major cross-drains greater than or equal to 48" (All cross-drains if Section 22 omitted)
- All grade separations with clearances (ie: bridges over roadway, etc.)
- Proposed bridges with begin and end stations
- Intersecting railroad track elevations and stations
- Existing ground
- Even Stations every 20 feet at 1"=20' scale and every 50 feet at 1"=50' scale
- Elevations

Typical Sections/Cross-sections

When required (see the [GDOT Design Policy Manual](#) for general guidance), prepare cross sections or typical sections of the stage indicating the area to be constructed along with the area to be used to maintain traffic. Staging cross sections shall be placed in order directly behind the corresponding staging plans or profile sheets. Cross sections shall show the following:

- Temporary pavement
- Temporary drainage
- Temporary barriers
- Traffic flow arrows
- Any other temporary slopes or structures necessary to complete the stage

Miscellaneous

- Temporary Drainage Cross Sections and applicable details
- All existing and proposed utility lines and structures
- Pay items and quantities required
- Indication of how all proposed utility relocations are to be coordinated with the proposed construction staging

19.003 Sheet Layout

Construction Staging Plans, Profiles and Cross Sections shall be prepared at the same scale as the Construction Plans, Profiles and Cross Sections. (At the discretion of the Project Manager)

Section 20 CONSTRUCTION STAGING DETAILS (Detours, Haul Roads, etc.)**20.001 General**

If a road closing and an off-site detour is required, prepare a plan showing a layout of the local roads with the road closure points and the detour route indicated. Also, indicate any load-limited bridges or other traffic restrictions and include applicable special directional signs.

Include details for other items such as haul roads only when borrow or waste pits are included in plans or work roads when required.

Signage and marking for Traffic Control Plans are required for special conditions, such as off-site detours and projects of unusual complexity.

20.002 Required Information

- Background map (ie: county, city, aerial)
- Route with directional arrows
- Detour signing
- Road Names
- Length of route segments and overall detour length
- Basic alignment (ie: distance, bearing, PI) and widths for haul roads and work roads
- Project limits
- Bridges (load ratings)
- Speed limits of detour route

20.003 Sheet Layout

Prepare off-site Detour Plans on standard plan sheets with a scale such that the entire detour route is shown and all details are clear and legible. If it is not possible to show the entire detour legibly on one sheet, use multiple sheets and label match lines between sheets.

Section 21 DRAINAGE AREA MAP**21.001 General**

A drainage map shall be prepared and included in the drainage report. Inclusion of a drainage map in the plans set is optional at the Department's discretion. Locations, drainage areas, discharge volumes ("Q"), and sizes are required for all cross structures.

21.002 Required Information

- Identify all state waters on or within 200' of the project site.
- Identify any ponds or lakes within 500' of the project site
- For each outfall identify:
 - Station for each outfall
 - The skew angle and size of the pipe or culverts
 - 50- and 100-year Pre- and post-construction peak flows
 - 50- and 100-year Pre- and post-construction velocities corresponding to the peak flows
 - Headwater elevations corresponding to the 50- and 100-year Pre- and postconstruction peak flows
- Total drainage acreage contributing to each outfall
- Total disturbed acreage of each outfall
- Total disturbed area for the project.
- Total project size. (This includes both disturbed and undisturbed areas within the project limits)
- Pre- and post-construction Runoff Coefficients
- Show and label receiving waters and other significant drainage features, and show the direction of flow of each.
- Show roadway overtopping elevation(s) and the past high-water elevation and date of occurrence in plan view, if available;
- Show applicable roadway names and centerline.
- Show beginning and ending project limits
- Show beginning and ending of bridge/bridge culverts
- Show the drainage patterns of individual basins. Include flow arrows and average outfall channel slopes. Use Insets to show areas that are of such magnitude that the boundaries cannot be plotted at the selected scale.
- Show and note by structure number, all existing and proposed cross-drain structures, pipes, outfall structures, and retention/detention pond locations. Label existing structures that are to be removed or plugged, if any. Refer to the Department's standard legend for correct symbols for existing drainage facilities.
- Stream Buffer Delineation (Diamond line code) with the following description "ESA - 25' or 50' stream buffer"
- Orange Barrier Fence (Solid circle line code) with the following description "Orange barrier fence"
- Wetland Boundary delineation (Diamond line code) with the following description "ESA - Wetland Boundary"

- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”

Detail Drainage Map – As needed, prepare a supplemental drainage map on a 1”=100’ or 1”=200’ scale. The purpose of this detail is to show the small areas needed to calculate pipe sizes for the tabulation of drainage structures within these special areas. Should major drains pass through one of these areas, make a cross reference note to indicate the proper sheet which reflects the drainage area for that structure.

21.003 Sheet Layout

Prepare Drainage Area Map on standard plan sheets with a scale such that the entire area is shown and all details are clear and legible.

Section 22 DRAINAGE PROFILES

22.001 General

Drainage profile sheets include profiles of all drainage structures and pipe systems, slopes of pipes; flowline elevations of all weirs, slots, pipes and structures; height of structure; index numbers of standard details used, and similar data. Drainage profiles also show the vertical relationships of the entire drainage system and possible conflicts with utilities, as well as the horizontal relationship to the Construction Centerline.

22.002 Required Information

- The following items are required to be shown for each drainage structure:
 - Structure number
 - Station/Offset distance or direction
 - Structure type (Georgia Standard or Detail information)
 - Invert elevations
 - Height of structure
 - Length, size, flow direction, and slope of pipe
 - Number of lines/structures
- Centerline station of roadway at all crossings (including skew)
- Existing and proposed groundlines along the drainage system
- Subgrade of roadway where applicable
- Show all pipe connections to each structure
- At outlet structures, show existing and proposed groundline to the RW or Easement line
- Underground utilities which are in close proximity to drainage structures in conjunction with the drainage profiles

In addition to the above information, the following specific information is to be shown for:

Cross-drains:

- The design year headwater elevations for all major cross drains (ie: greater than or equal to 48" or equivalent cross-sectional area)
- Subgrade material under culverts and pipes
- Culvert design height of fill (ie: 6X6-30, designed for 30' of fill)
- Design year outlet velocity

22.003 Sheet Layout

Multiple drainage systems can be placed on a sheet, along with a summary of systems reflected on each sheet in the title block. Show the horizontal and vertical scales in the bottom right of each sheet. Match lines shall be used as required.

Cross-drains:

Cross-drains are to be shown on cross-section sheets and at the same scale as the roadway cross-sections. Show all elevation datum on both the left and right sides of the sheet. Show offset from centerline along the bottom of sheet.

Longitudinal systems:

Longitudinal systems are to be shown on profile sheets and at the same scale as the roadway profiles. Show all elevation datum on both the left and right sides of the sheet.

Show all segments of the pipe system that do not exceed 45 degrees in delta as a continuous system on the Drainage Profile sheet. For any segments of the system that equal or exceed 45 degrees in delta, break the segment(s) to a new "line" on the Drainage profile sheet.

Show the Design HW at each inlet (Hydraulic Grade Line).

Section 23 CROSS-SECTIONS

23.001 General

Cross-sections depict the existing ground conditions as sections perpendicular to the construction centerline or baseline. The proposed cross-sectional outline of the new facility with all its functional elements is also shown on the cross-sections. Cross-sections are intended to illustrate all earthwork requirements.

Assemble the cross sections in the plans set in the following order:

1. Mainline
2. Ramps
3. Cross/Side Streets/Major Commercial or Retail Driveways

23.002 Required Information

- Cross-section at both the begin and end construction stations of all roadways
- Cross-sections at begin and end stations for exceptions and bridges (no sections are required between begin and end stations)
- Existing ground lines
- Proposed ground line (including correct subgrade depth)
- Station number of each section
- Station equations
- Proposed profile grade elevation for each cross-section
- If the profile grade is at the centerline of a divided roadway, label the inside edge of pavement elevation.
- All ditch elevations
- Ratio for the side slopes and back slopes
- Special ditches shall be labeled

Miscellaneous

- Limits of removal of unsuitable material when required by the soils survey
- Special features (walls, barrier, buildings, etc.) that affect the limits of construction
- Matchline between mainline and ramp sections
- RW Limits in critical areas such as walls
- If Quality Level "A" is used, horizontal and vertical location of existing underground utilities (water lines, sanitary and storm sewers, etc.) that lie within the limits of the level "A" survey for critical areas such as walls

23.003 Sheet Layout

The acceptable horizontal scales are 1" = 10', 1" = 20', and 1" = 50'. The acceptable vertical scales are 1" = 10' and 1" = 20'. Horizontal and vertical scales do not have to be the same, but horizontal scale must be greater than or equal to the vertical scale. Any exceptions to these scales will be approved by the Project Manager.

- Show cross-sections at even 50' intervals with stations increasing from the bottom to the top when drawn along the wide axis of the sheet and right to left when drawn along the narrow axis of the sheet. Specific project conditions may require cross-sections at shorter or longer intervals.
- Cross-sections are plotted on the standard grid sheets provided in the EDG cell library.
- Cross-section centerline or baseline placed and labeled on a major gridline on each sheet
- Horizontal centerline offset distance at each major gridline
- Elevation label at each major gridline
- Cross-section sheets may be single or double column and oriented portrait or landscape
 - For double columns, show cross sections with stations increasing from the bottom to the top and left to right on the sheet.

Section 24 UTILITY PLANS**24.001 General**

The Utility Plans are used as the primary tool to identify and resolve utility related conflicts/issues prior to beginning the construction of a project. Utility Plan sheets shall be comprised of roadway plan sheets with the inclusion of all existing, proposed, and adjusted utility facility locations (overhead & underground) found within a project's limits. The work in this section shall be performed by the Utility owners or their contractor unless additional plans are provided in [Section 44](#).

Where extensive or complex utility work is proposed to be performed as part of the roadway contract work performed by the GDOT Contractor, separate Utility Relocation Plan Sheets for that specific utility shall be included in the project plans. Refer to [Section 44](#) for additional requirements.

It is imperative that information pertinent to utility facilities be clearly shown in the Utility Plan sheets without the interference of extraneous data such as horizontal curve data, superelevation data, roadway dimensions, miscellaneous text, etc. All background information such as pavement limits, existing structures, etc. should be screened back.

24.002 Required Information for Utility Plan Sheets

- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

Utility Legend, Notes & Details

- Utilities Legend (as provided by Standard GDOT Cell).
- Miscellaneous General Notes.

- Miscellaneous General Notes required for coordination of utility facilities with roadway construction.
- Provide all Overhead/Subsurface Utility Engineering (SUE) investigation notes that were originally included in approved SUE deliverables for the respective project.

Details – Summary of Quantities / Pole Data Table

- Separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheet (to be placed with the Roadway Summary of Quantities).
- Pole Data Table (on separate sheet - if applicable).
- Quality Level A Test Hole Data Table (on separate sheet - if applicable)

Utility Plan Sheets

The following items should be shown as screened back:

- Construction centerline with project stations and begin/end project limits
- Curb and gutter or edge of pavement (proposed and existing)
- Road and street names
- Existing and Required Right of Way limits
- Property lines
- Environmentally sensitive area limits (including archaeological sites)
- Property owners
- All proposed and existing easements (including existing and proposed utility easements)
- Proposed and existing drainage structures/features (excluding drainage text)
- Limits of existing and proposed sediment basins & detention/retention ponds
- Proposed construction limits (C/F lines)
- Topographical planimetrics (i.e. existing buildings / structures, existing tree/vegetation limits, lakes, rivers etc.)
- All proposed bridges (including bent, column & footing locations when utility crossings are present), culverts, wall and sign structure footings and other structures
- All proposed and existing strain poles (signal, ATMS, sign, lighting)
- Railroad mainline and spur tracks with their respective property/easement limits

The following items should not be shown screened back:

- For projects that have had an Overhead/Subsurface Utility Engineering (SUE) investigation employed; provide all applicable items included in the *GDOT SUE Deliverables Checklist* – available from the GDOT Utilities web page below. (<http://www.dot.state.ga.us/dot/operations/utilities/sue/index.shtml>)
- SUE investigation Limit of study (if applicable)
- For projects that have had an Overhead/Subsurface Utility Engineering (SUE) investigation employed; provide a Sanitary Sewer Data Table (on separate sheet - if applicable)
- Location and labeling of existing gas valves and shut-offs
- Location and labeling of existing water valves and shut-offs
- Existing overhead and underground utilities found within the project's limits (including size and material if known).
- Sanitary sewer manhole top, and invert elevations. Sanitary Sewer pipe flow directions

- All proposed, temporary, and relocated utility facilities with annotation describing nature of work.
- Disposition of all existing utilities (i.e.: "To be removed", "To be Adjusted", "To be Abandoned", "To Remain", "To be Relocated", etc.)
- Define utility work as to which is to be done by the Department's contractor and which is to be done by others
- Utilities to be relocated (or removed, or installed) prior to construction shall be labeled on the plans as "To be relocated (or removed or installed) by others prior to roadway construction"

Utility Profiles / Cross-Sections

- Proposed utility facility profiles, cross-sections and staging cross-sections (as required)
- Proposed water and sanitary sewer plan/profiles.

Miscellaneous Proposed Utility Details

- Any miscellaneous proposed utility details
- Quality Level A Test hole data sheets (if applicable)

24.003 Sheet Layout

24.004 Miscellaneous

- Ensure that all proposed and existing utilities are coordinated with the respective project's Construction Staging and Erosion Control Plans. For complex projects with multiple stages, it is necessary to prepare the Utility plans in the same format and sheet layout as the project Staging Plans.
- If bridge plans are included in the project plans, make sure the plans have made accommodations for utility crossings and attachments, if applicable.
- For further information regarding SUE, Utility Relocation and Accommodation Policy, see the Office of Utilities Website:
(<http://www.dot.state.ga.us/dot/operations/utilities/index.shtml>).

Section 25 LIGHTING PLANS AND DETAILS**25.001 General**

Lighting plans are required for projects that propose modifications to existing lighting or the construction of new lighting systems. Lighting plans shall provide a set of construction details, electrical circuit details, single line diagram and schematic diagram, lighting standards and high mast tower data summaries, conduit descriptions, service point locations, luminaire specifications, foundations and details, and other data required for the proposed lighting components.

25.002 Required Information

Lighting Plans shall include the following sheets:

- Separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheet (to be placed with the Roadway Summary of Quantities)
- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes
- Electrical Legend, Notes & Details
- Lighting Standards and High Mast Tower Data Tables
- Lighting Layout
- Underpass Lighting Layout
- Bridge Lighting Layout
- Lighting Details
- Schematic Diagram
- Single Line Diagram
- Foundation Details
- Miscellaneous Lighting and Electrical Details

The following describes the contents for each sheet type:

Electrical Legend, Notes & Details

Electrical Legend, Notes & Detail Sheet include:

- Lighting Legend
 - High Mast Tower
 - Roadway Standard
 - Conduit
 - Pull Box
 - Electrical Junction Box
 - Service Point
 - Surge Suppressor
 - Non Tower or Standard mounted Luminaire
 - Existing Conduit/Cables to be reused
 - Existing Conduit to be removed/abandoned
 - Miscellaneous items
- General Notes
 - Luminaire specifications
 - Wiring specifications
 - Conduit specifications
 - Roadway Lighting Photometric Data and Design Calculation Criteria including:
 - Light Loss Factor
 - Road Classification
 - Pedestrian Conflict Area Classification
 - Average Maintained Illuminance (fc) with Pavement Classification
 - Minimum Illuminance (fc)
 - Uniformity Ratio (Avg/Min) Maximum Value
 - Veiling Luminance Ratio
 - Tunnel Lighting Photometric Data and Design Calculation Criteria including:
 - Light Loss Factor
 - Road Classification
 - Wall Reflectance
 - Identification of zones
 - Luminance levels in all zones (cd/m²)
 - Uniformity Ratio in all zones
 - Required Contractor Warranty information.
 - Overhead power line warnings, clearances etc.
 - Miscellaneous notes
- Grounding Details
 - High Mast Tower
 - Lighting Standards
 - Service Points
 - Miscellaneous Locations

Lighting Standard and High Mast Tower Data Tables

Lighting Standard and High Mast Tower Data Tables include:

- Design and Construction information for each lighting standard or high mast tower installation by the structure identification number tabulated sequentially.
- Construction Centerline station and offset
- Mounting Height
- Mast Arm Length
- Mounting Arrangement
- Luminaire Schedule
 - Lamp Type
 - Voltage
 - Wattage
 - Distribution Pattern
 - Cutoff Classification

Lighting Layout Sheets

Lighting Layout Sheets include:

- General Information
 - Lighting standards and high mast towers shall be labeled with a unique number.
 - Lighting standards and high mast towers shall be numbered sequentially (preferably increasing stations). Standards: S1, S2, etc... Towers: T1, T2, etc...
 - Each electrical service point shall be labeled with an alpha character.
 - Associated circuits shall be labeled with the service point letter and a corresponding number (e.g. Service Point "A" would have circuits A-1, A-2, A-3, etc.).
 - Conductor gauge and number of conductors shall be shown on the plan sheets or tabulated on a specific detail sheet.
 - Stationing and offset shall be shown for each standard or tower (may be omitted if clearly indicated on the Lighting Standard and High Mast Tower Data Sheet).
 - Utility owner name, address and contact person along with specific connection information, requirements, or coordination required for each service point location shall be provided on either the Lighting Layout Sheet or a specific detail sheet.

- Existing Information
 - Service Point(s)
 - Standards
 - High Mast Towers
 - Conduit/Cable runs
 - Roadway Names
 - Fencing
 - Guardrail
 - Median/Side Barriers
 - Noise Barriers
 - Edge of Pavements
 - Signs
 - Driveways
 - Buildings / Structures
 - Walls
 - Fences
 - Railroad tracks

- Bridges
- Wooded areas
- All other pertinent physical features
- Waters of the U.S

- Proposed Information
 - Service Point(s)
 - Standards
 - High Mast Towers
 - Conduit/Cable runs
 - Junction/Pull boxes
 - North Arrow
 - Scale Bar
 - Limits of required clearing (if different from Clearing Limits on Roadway Plans)
 - Roadway Names
 - Fencing
 - Guardrail
 - Edge of Pavements
 - Construction Centerlines
 - Edges of pavement
 - Curb and Gutter
 - Sidewalk
 - Ditches
 - Drainage Structures
 - Utilities
 - Guardrail
 - Median/Side Barriers
 - Noise Barriers
 - Walls
 - Bridges
 - Approach slabs
 - Construction limits (cut/fill line)
 - Strain Poles
 - Driveways
 - Matchlines (including station and drawing number)
 - Required R/W
 - Easements

Underpass Lighting Layout Sheets

Underpass Lighting Layout Sheets include:

- General Information
 - Lighting standards and high mast towers shall be labeled with a unique number.
 - Lighting standards and underpass luminaires shall be numbered sequentially (preferably increasing stations). Standards: S1, S2, etc... Underpass Luminaires: U1, U2, etc...
 - Each electrical service point shall be labeled with an alpha character.

- Associated circuits shall be labeled with the service point letter and a corresponding number (e.g. Service Point "A" would have circuits A-1, A-2, A-3, etc.).
- Conductor gauge and number of conductors shall be shown on the plan sheets or tabulated on a specific detail sheet.
- Stationing and offset shall be shown for each standard or tower (may be omitted if clearly indicated on the Lighting Standard and High Mast Tower Data Sheet).
- Utility owner name, address and contact person along with specific connection information, requirements, or coordination required for each service point location shall be provided on either the Lighting Layout Sheet or a specific detail sheet.

- Existing Information
 - Service Point(s)
 - Standards
 - High Mast Towers
 - Conduit/Cable runs
 - Roadway Names
 - Fencing
 - Guardrail
 - Median/Side Barriers
 - Noise Barriers
 - Edge of Pavements
 - Signs
 - Driveways
 - Buildings / Structures
 - Walls
 - Fences
 - Railroad tracks
 - Bridges
 - Wooded areas
 - All other pertinent physical features
 - Waters of the U.S

- Proposed Information
 - Service Point(s)
 - Standards
 - Underpass Luminaires
 - Conduit/Cable runs
 - Junction/Pull boxes
 - North Arrow
 - Scale Bar
 - Roadway Names
 - Median/Side Barriers
 - Noise Barriers
 - Guardrail
 - Construction Centerlines
 - Edges of pavement
 - Curb and Gutter
 - Sidewalk

- Ditches
- Drainage Structures
- Walls
- Bridges
- Approach slabs
- Construction limits (cut/fill line)
- Strain Poles
- Driveways
- Matchlines (including station and drawing number)
- Required R/W
- Easements

Lighting Detail Sheets

Lighting Detail Sheets include:

- Lowering Device details and specifications
- Pole base details
- Head frame and luminaire ring details
- Electrical junction box details
- Electrical pull box details
- Electrical conduit stubout details
- Luminaire mounting details

Schematic Diagram Sheets

Schematic Diagram Sheets include:

- Wiring Diagram
- Service Point data
- Circuit Breaker specifications
- Contactor specifications
- Circuit table
- Conductor size and type
- Number of conductors
- Miscellaneous electrical wiring specifications
- Service Panel specifications

Single Line Diagram Sheets

Single Line Diagram Sheets include:

- Single Line Diagram for each service point
- Legend of all symbols used in Single Line Diagram
- Circuit breaker specifications
- Circuit table
- Conductor size and type
- Number of conductors
- Miscellaneous electrical wiring specifications
- Surge Suppressor specifications

Lighting Foundation Detail Sheets

Lighting Foundation Detail Sheets include:

- Foundation Elevation View
- Foundation Plan View
- Foundation notes and details
- Reinforcement Schedule
 - Location (foundation number)
 - Number of locations
 - Length
 - Number of bars required
 - Type
- Foundation Quantities in tabular form with Structure Number showing separated unit quantities and total quantities.

Miscellaneous Lighting and Electrical Details

Miscellaneous Lighting and Electrical Details include:

- Details for mounting light standards on barrier walls
- Light Standards footing details
- Special mounting details for specific project requirements

25.003 Sheet Layout

Section 26 SIGNING AND MARKING PLANS AND DETAILS**26.001 General**

Signing and Marking plans depict signage and pavement marking on the roadway that is necessary for normal traffic flow and safety.

26.002 Required Information

Prepare plan sheets to show all permanent roadway signs and pavement markings as they appear upon completion of the project along with the necessary details of unique project signs (destination, mileage, road name, guide, and overhead signs).

Include base information from the roadway design file to allow adequate depiction of required signing and marking. Coordinate signing and marking items with utilities, right-of-way, and drainage structures.

Include the following list of base data on each sheet:

- Separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheet (to be placed with the Roadway Summary of Quantities)
- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes
- Edge of Pavement
- Driveways
- Project Center-line w/stationing text
- Existing and Proposed right-of-way
- Property boundaries
- City, county, state boundaries
- Names of intersecting roads

- Any sidewalks, guardrail, or barrier walls
- Location of guardrail for incorporation into design plans
- Drainage structures
- Existing and proposed overhead utility structures (i.e. poles)
- All railroad at-grade crossings and bridge structures

In addition to the base information above, the following items are to be reflected for the following specific disciplines.

Pavement Marking Requirements

- Lane lines
- Stop bars
- Crosswalks
- Painted islands
- Label the type of each line on each sheet
- Required hatching
- Required arrows

Signing Requirements

- Location and orientation of required signs
- Representation of the sign face
- Sign code

Special Signs - Projects may require special signs including guide signs and direction signs.

- Special Sign Detail that shows the complete message layout with:
 - Spacing
 - Margins
 - Border widths
 - Corner radii
- All guide signs and special signs shall include a legend showing letter size, space plate size, etc.

Overhead signs

- Wire-span
 - Pole locations (station and offset) and types
 - Wire span
 - Show and specify sign and sign code
- Structural
 - Vertical clearance
 - Cross section
 - Number and dimensions of the sign
 - Distance from the edge of roadway to the support columns
 - Distance from column to column
 - Structure number and type
 - Station and Offset

26.003 Sheet Layout**26.004 Miscellaneous**

General Notes - Show all general notes pertaining to signing and pavement markings on the last sign summary sheet in the plan set or use a separate plan sheet when room is not sufficient.

Section 27 SIGNAL PLANS

27.001 General

Signal Plans show graphically the way in which the traffic signal is to be constructed and installed. This includes the intersection geometrics; the location of signal hardware and equipment; signal phasing; pavement markings; signal related signs; interconnect/communication layout, and other pertinent information. The various items that are usually included on Signal Design Plan sheets are discussed below.

27.002 Required Information

- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes
- Roadway Geometrics
 - Intersecting streets and driveways within limits of intersection (include street names, bike and pedestrian paths/trails)
 - Right of way or property lines (permanent easements, limited access lines, historic boundaries, city, county, state boundaries, railroad right of way)
 - Physical features (concrete islands, medians (grass or raised) curb and gutter, sidewalks, shoulders, bridges)
 - ADA wheelchair ramps/landings
 - Existing utility lines and structures (Screened back)
 - Proposed Utility facilities (underground and overhead, electrical service points, point of attachment, vaults, lighting) including owners and joint-use
 - Provide the proposed attachment elevation (Point of Attachment - POA) of the traffic signal span wire when joint use.
 - Railroads, emergency centers, and schools in the vicinity
 - Any drainage or sewer facility within intersection (inlets, catch basins, ditches, streams, ponds, storm drains)

- Existing topography within intersection (trees, fences, retaining walls, buildings, guardrail, fire hydrants)
- Underground storage tanks within limits of intersection
- Traffic Control Features
 - Signal display and design configurations
 - Existing traffic signal equipment
 - Number and location of signals
 - Size and arrangements of signal indications in signal faces
 - Signal mounting configuration (pole or post mounted, span-wire, mast arm mounted)
 - Lateral placement and display of pedestrian signals
 - Location and display of blank-out signs
 - Battery backup equipment
 - Lane usage and configurations (pavement marking)
 - Parking restrictions (Bus stops, loading zones)
 - Location and message of traffic signal related signs
 - Street name signs
 - Pedestrian signs
 - Any supplementary or auxiliary sign
 - Posted speed limits (main and side streets)
 - Show placement and type of loop detector (presence or set back loop)
 - Show placements of detectors on all approaches
 - Location and type of conduit (rigid, TP 2, TP 3)
 - Lateral placement of controller cabinet including mounting alternative (pole or base mounted)
 - Lateral placement of signal supports (wood poles with down guys or, concrete, steel strain poles or mast arms)
 - Show station and offset of traffic signal poles.
 - Show list of materials for the traffic signal installation lump sum (647-1000)
 - Traffic Signal Controllers
 - Show location and type of controller (master, local)
 - Interconnection (hard wire cable, Fiber Optic cable, radio communication)
 - Show sequence of phases (phasing diagram) including vehicular and pedestrian movements, pre-emption and pre-emption clearance phases
 - Show cabinet input charts for each signal design.
 - Special features being used (evacuation switch, pre-empt, video detection)
 - Field wiring design
 - Location and type of pull boxes
- Project specific notes
 - Indicate on the plan that at least one spare conduit entrance be provided into all concrete pad, base-mounted cabinets
 - Identify the size and location of all risers being used
 - Identify the location of all interconnect cable and place interconnect in a separate conduit from other intersection wiring
- Construction stationing
- Location of guardrail for incorporation into design plans

27.003 Sheet Layout

General Note Sheet

This sheet contains instructional information concerning equipment and installation that applies to the total project. These notes should be short, to the point and should not contain unnecessary information repeated elsewhere. This sheet may be included with Project General Notes or on the Traffic Signal Summary of Quantities sheet.

Legend Sheet

This sheet is used to convey all the symbols used on an intersection plan to denote the various traffic control elements or hardware. The Legend may be included on another Traffic Signal Sheet.

Summary of Quantity Sheet

This sheet contains summary boxes or lined pay items of the estimated quantities needed for material or equipment used for Signal Design projects. It will be a separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheet (to be placed with the Roadway Summary of Quantities).

Detail of Overhead Street Name Signs Sheet

This sheet shows the detail and summary of overhead street name signs and the type of legend, sign material and letter size. In addition, it shows a tabulation of the sign material and the estimated quantities needed. This sheet may be included in the Traffic Signal Plans.

Signal Design Plans

This sheet shows the physical layout of the intersection as defined from base plans and serves as the reference source to design and locate the various traffic control items. Draw the signal plan at a scale of 1: 30.

Standard and Construction Details

The detail sheets consist of previously developed standard plans or drawings for items of equipment or construction details common to most signal installations. Detail sheets are also used for special features not covered by standard drawings, these usually involve the specifics of a different type of installation or special equipment unique to an individual location.

Communication Routing Plans

This sheet shows the physical layout of a coordinated operations system of two or more intersections. The plans should show all signalized intersections and interconnect cables, wireless equipment, and all associated hardware. The various items that are usually included on Communication Routing Plan sheets are listed below.

- Communication cables, related equipment, or wireless devices
- If fiber optic cable is used and is buried, show all conduits and pull boxes.
- If fiber optic cable is used and is aerial, show all existing utility poles and point of attachments for each pole.
- If wireless interconnect is used, show all antennas and location of antennas.
- Location of controller cabinet at adjacent intersections.

- Show all pay items and quantities on each sheet.

Section 28 ATMS/ITS PLANS**28.001 General**

The ATMS plans shall show the design of fiber optic cable, changeable message signs, video detection systems, CCTV systems, hub buildings, hub/control center equipment, radar detection systems, ramp meters, specification development and fiber allocation sheets.

28.002 Required Information

- Separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheet (to be placed with the Roadway Summary of Quantities)
- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes
- Structure identification (ID) number label for all field device supports
- Existing ATMS Utility lines and structures
- Limits of all railroad right of way
- Details of all devices
- A legend that identifies all existing and proposed equipment shown on plans.
- General Notes – Show all general notes pertaining to ATMS system on a separate sheet in the plan set.
- Existing and proposed right-of-way lines and monument
- Pavement markings
- Guardrail
- Location of guardrail for incorporation into design plans
- Bridge decks
- Structures impacting ATMS design (drainage, utilities, etc.)

Fiber allocation sheet

- Fiber ID Number
- Cable ID Number
- Trunk Cable ID
- Tray ID Number

28.003 Sheet Layout

Section 29 LANDSCAPING PLANS AND DETAILS

29.001 General

Landscaping plans depict all project landscaping items and details that are to be constructed excluding the permanent erosion control items. The plans shall provide type (plant and size) and location of landscaping items within the project limits. Plans also provide details and notes of how items are installed. Plans may also include irrigation and applicable details for installation. Landscape plans shall show the proper project information such as proposed roadway features and utilities so that no design/construction conflicts exist.

29.002 Required Information

- Separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheet (to be placed with the Roadway Summary of Quantities)
- Design Speed
- Posted Speed
- Legend key
- An overall site plan and an area map depicting the roadway corridor in relation to the surrounding environment.
- The scale of the drawing should be generally 1"=50'. If a larger scale drawing is required for clarity, then create enlarged plans depicting the work to be done in the right-of-way.
- Display all property lines, right-of-way.
- Show the names of Route Numbers, U.S. and State, including the names of highway and roads on the plan.
- Contour lines in areas of landscaping
 - 2 foot contours
 - Existing contours will be dashed
 - Proposed contours will be solid
- Show all sign locations
- Existing and proposed topo including:
 - Edge of pavement (or curb line)
 - Sidewalks
 - Driveways
 - Medians
 - Channelizing islands
- Show all drainage features.
- Show proposed and existing utilities that are in proximity to the proposed landscaping.
- Stream Buffer Delineation (Diamond line code) with the following description "ESA - 25' or 50' stream buffer"
- Orange Barrier Fence (Solid circle line code) with the following description "Orange barrier fence"
- Wetland Boundary delineation (Diamond line code) with the following description "ESA - Wetland Boundary"
- Historical Boundary delineation (Diamond line code) with the following description "ESA- Historical Boundary"

- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

Plant Specification Sheet – Show the following:

- Abbreviation name (if used on landscape plans)
- Botanical name
- Common name
- Height
- Spread
- Caliper
- Branching requirements (minimum number, height first, cane, crown),
- Dug (B&B or container size)
- Minimum root ball diameter
- Origin
- Remarks

Landscaping Plan Sheet - Generally a 1”= 50’ scale drawing showing:

- Species
- Location
- Size
- Quantity of the new plant material
- Proposed and existing utilities

Planting Detail Sheets - Information regarding:

- Planting instructions
- Staking of trees
- Tree protection

Irrigation/Drainage Plan - There are no irrigation specifications in the GDOT’s Standard Specifications, therefore, if irrigation is approved for a project, an irrigation special provision shall be required. These sheets (if required) shall show:

- Power sources
- Water sources
- Valve locations

- Controllers
- Watering zones
- Head types
- All other appurtenances required for irrigation systems

29.003 Sheet Layout

Section 30 MITIGATION PLANS (wetland, stream, stream buffers, historic, etc.)**30.001 General**

Mitigation Plans are used for constructing wetland, stream, or stream buffer mitigation sites or landscaping plans for the purpose of mitigating visual impacts to an environmental resource (historic resources, etc).

30.002 Required Information

- An overall site plan map and an area (small location) map depicting the project corridor in relation to the surrounding environment (i.e.: cover sheet).
- The scale of the drawing should be generally 1"=50'. If a larger scale drawing is required for clarity, then create enlarged plans depicting the work to be done in the right-of-way.
- All intersecting streets
 - Street names
 - Station on the mainline/intersection street
- Existing and Required Right-of-Way limits (Use Station/Offset or Point Numbers, but not both)
- Property lines
- Property owner information
- All proposed and existing easements (including existing utility easements) (Use Station/Offset or Point Numbers, but not both)
- Existing overhead and underground utilities found within the project limits including size and material if known.
- Disposition of all existing utilities (i.e.: To Be Removed, To Be abandoned, etc)
- Proposed construction limits (C/F lines)
- Topographical planimetrics (i.e. existing buildings/structures, existing tree/vegetation limits)
- Proposed contour lines
- Proposed utilities
- Strain Poles
- Proposed Roadway Features
- Mitigation specific construction sequencing
- Stream typical sections and details
- Staging areas for mitigation materials
- All drainage features.
- All Railroads crossed or impacted by the project.
- Planting Zones in plan view
- Quantity of the new plant material
- Vegetation selection specifications
- Stream Buffer Delineation (Diamond line code) with the following description "ESA - 25' or 50' stream buffer"
- Orange Barrier Fence (Solid circle line code) with the following description "Orange barrier fence"

- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

30.003 Sheet Layout

1. Stream Mitigation Plan Sheet:

- Display all Stream curve data (for use in the design of the meanders in the stream)
 - Minimum data should include radius of curvature

2. Stream Buffer Mitigation Plan Sheet:

- Display all Stream curve data (for use in the design of the meanders in the stream)
 - Minimum data should include radius of curvature

Section 31 RETAINING WALL ENVELOPES (Required for GDOT Standard Walls, MSE, Tie-Back, etc.)

31.001 General

31.002 Required Information

31.003 Sheet Layout

Section 32 RETAINING WALL PLANS (Required when full design is included in plan set, i.e. Cast-In-Place)

32.001 General

32.002 Required Information

32.003 Sheet Layout

Section 33 SOUND BARRIER ENVELOPES**33.001 General**

This section of the plans establishes the top and bottom of the sound barrier wall for the Contractor to build.

33.002 Required Information

- Elevations on top of the sound barrier wall at the beginning and ending of the wall.
- At profile break points label station, offset and elevation.
- Label station and offset of horizontal turns in sound barrier walls.
- Show the existing ground line.
- The proposed elevations of the bottom of the sound barrier wall.
- Label sound barrier wall number(s) on profile sheet
- Show and label top and bottom elevations of side barriers and/or gravity walls required for sound barrier wall.

33.003 Sheet Layout

Sound barrier envelopes will be shown on the standard profile sheet.

Section 34 SOUND BARRIER PLANS

34.001 General

The sound barrier plans show the location of sound barrier walls for a road widening project or for a stand-alone sound barrier project. The required information below will need to be included on the sound wall plan sheet.

34.002 Required Information

The existing information shown should include:

- Sign structures
- Roadway items
- Driveways
- Buildings (type and number of stories) / Structures
- Drainage (including streams, ponds, lakes, ditches, and storm drain pipes all with flow arrows)
- Above ground utility features including utility structure and appurtenance locations (i.e. poles, valves, manholes/vaults, telephone pedestals)
- Retaining walls
- Other paved areas
- Gravel surfaces
- Fences
- Railroad tracks
- Railroad names
- Railroad mileposts
- Railroad crossing ID numbers
- Bridges (including Bridge ID)
- Wooded areas (including tree lines or obscured areas)
- Trees (specific to parcel or design issues)
- Underground storage tanks within the limits of the topographic survey
- Groundwater wells with indication to be plugged or remain in service
- All other pertinent physical features
- Existing right-of-way and easement lines with labels
- Property lines with labels
- Railroad right of way lines with labels
- Utility easement lines with labels
- City, county, and state boundaries with labels
- Existing L/A – Limited Access lines with labels
- Wetlands
- Historic boundaries
- Waters of the U.S
- Environmentally Sensitive Areas (ESA's)

Proposed Design Features shall include:

- Begin/End Project Stations to the nearest 100th (i.e. 1010+27.50) (mainline)
- Begin/End Construction Stations to the nearest 100th (i.e. 1010+27.50) (mainline)
- End Construction Station to the nearest 100th (i.e. 1010+27.50) (crossroad)
- Alignments
 - Stations progressing from west to east and from south to north
 - PC/PT (SC/CS, TS/ST) Stations
 - Bearings
 - Road names
 - Stationing and primary tic marks every 500 feet and secondary tic marks every 100 feet (frequency can be increased) for 1"=50' to the even station (i.e. 12+30)
 - Stationing and primary tic marks every 100 feet and secondary tic marks every 50 feet for 1"=20' to the even station (i.e. 12+30)
 - Curve number
 - Equalities with back and ahead stations
 - Stations where centerline crosses county boundaries
- Curve Data Table (not required when [Section 11](#) is included)
 - CURVE Number
 - P.I. Station
 - P.I. Coordinates
 - Δ or "DELTA" (Deflection angle)
 - D (Degree of Curve)
 - T (Tangent Length)
 - L (Length of Curve)
 - R (Radius)
 - E (External distance)
 - e (Superelevation in percent)
- Angle and station of intersection
- Edges of pavement
- Curb and Gutter
- Sidewalk
- Shoulder
- Ditches (Material must be labeled if other than grass)
 - Begin/End stations for berm and special ditches
- Guardrail/Barriers
 - Begin and end stations for guardrail and anchors
- Walls
 - Begin and end stations for retaining walls
- Noise Barrier
 - Begin and end stations for noise barrier
- Drainage
 - Structures (structure number)
 - Storm Drains (size and direction)
 - Side Drains (driveway pipes)
 - Culverts (width (feet) X height (feet))
 - Permanent erosion features (i.e. type of rip-rap, concrete aprons, concrete flumes, spillways)

- Inlet/Outlet Structures
- Bridges
 - Approach slabs
 - Begin/End Stations
 - Intersecting stations and angles
- Construction limits (cut/fill line)
- Railroad facility adjustments
 - NOTE: If this work is not to be included in the roadway contract, then clearly indicate on the plans that this work is to be done “By Others”.
- Strain poles
- Limits of pavement work (i.e. limits of resurfacing, pavement removal, widening, full-depth, overlay, milling, reconstruction, etc.)
- Survey control points (not required when [Section 11](#) is included)
- Permanent detention ponds
- All temporary sediment basins and permanent detention/retention basins
- Driveways
- Matchlines (including station and drawing number)
- Proposed Right-of-Way Features
 - Required right-of-way lines and labels
 - Easement lines and associated patterns
 - Property Owner name and parcel number of all affected parcels
 - Full station and offset of all required right-of-way, and easement (temporary, permanent and driveway) points or point numbers with station and offset information labeled elsewhere or preferably on the same sheet
 - Proposed right-of-way markers
 - Begin/End Limited Access
- Label beginning and ending noise barrier stations and offsets. The station and offset shall also be given at every break point along the horizontal alignment of the wall. Provide adequate information to stake out wall location.
- Label side barrier wall with begin and end station and offsets and type barrier.
- Location and size of any utilities, drainage pipes, bridge foundations, light standards, overhead signs and miscellaneous structures (houses, etc.).
- Limits of the right-of-way and easements shall be indicated by station and offset.

34.003 Sheet Layout

For a plan scale of 1" = 50', place match lines between sheets at even 100 feet intervals with a maximum coverage per sheet of 1500 feet. For a plan scale of 1" = 20', place match lines at even 50 feet intervals with a maximum coverage per sheet of 600 feet. The first and last plan sheets may be exceptions in each case.

Section 35 BRIDGE PLANS

35.001 General

35.002 Required Information

35.003 Sheet Layout

35.004 Miscellaneous

Section 36 BRIDGE CULVERT PLANS

36.001 General

36.002 Required Information

36.003 Sheet Layout

Section 37 MISCELLANEOUS STRUCTURAL PLANS (Buildings, tollbooths, ice canopies, etc.)

37.001 General

37.002 Required Information

37.003 Sheet Layout

Section 38 SPECIAL CONSTRUCTION DETAILS**38.001 General**

Special Construction Details are used to clarify project specific construction elements within a set of plans. Special Construction Details should be developed for specific construction items that are not included in the Department's Standards or Construction Details.

38.002 Required Information

- The special construction details should be listed on the index by a descriptive title of the special construction detail and creation date or latest revision date.
- Include all dimensions, views, and clearances necessary to clearly depict the construction element.
- Sole Source components should not be a part of the detail. Do not specify a manufacturer's items; list only the general construction item.
- For each item, any general notes, and any specific construction method required. General notes should be referenced on the right side of the plan sheet.

38.003 Sheet Layout

Label the drawing "Special Construction Detail", including a descriptive title.

Section 39 SPECIAL DESIGN BOX CULVERTS

39.001 General

39.002 Required Information

39.003 Sheet Layout

Section 40 CONSTRUCTION DETAILS

40.001 General

The current construction detail used in the development of the final construction plans should be listed on the index under a title of “Construction Details”. The current construction details should be listed on the index by current construction detail number, title of the construction detail and latest revision date of the construction detail. The current standards can be obtained by going to the following Georgia Department of Transportation, [R.O.A.D.S. web site](#), and selecting *Construction Standards and Details* from that page. Tiff images can be downloaded so they can be included as part of the final construction plans. The web site contains the English and Metric construction details.

Section 41 GEORGIA STANDARDS

41.001 General

Include all current Georgia Standards applicable to this project.

The Georgia Department of Transportation Standards are approved by the Federal Highway Administration to be used on the federal highway system. The current standards that are used in the development of the final construction plans should be listed on the index under a title of “Georgia Standards”. The current standards should be listed in numeric order by standard number, title of the standard and include the latest revision date of the standard. The current standards can be obtained by going to the following Georgia Department of Transportation, [R.O.A.D.S. web site](#), and selecting *Construction Standards and Details* from that page. Tiff images can be downloaded so they can be included as part of the final construction plans. The web site contains the English and Metric standards.

Section 44 UTILITY RELOCATION PLANS – Water/Sewer, Electric, Gas, Communications, Cable**44.001 General**

Most utility relocation/adjustment work required to accommodate a GDOT project is performed by the utility owners or their contractor. In some cases however, it is advantageous to the GDOT and the utility owner to include the utility work as part of the roadway contract. The highway contractor is required to construct or relocate the specified utilities in accordance with the plans and special provisions developed by the GDOT and/or the utility owner and incorporate this work as part of the bid package. To this end, more than one utility plan set may be included. For example, the contract plans may include separate plans for a gas utility and a water utility.

It is also possible for the utilities to combine their individual facilities into one plan set and supply them to the GDOT for inclusion into the contract plans. This occurs when the utility relocations/adjustments are not extensive and can be clearly presented together (i.e. combined Water and Gas relocation plans) or on the Utility Plan Sheets referenced in Section 24 of this document. The Project Manager should consult with the District Utilities Engineer to determine the requirements in these cases. When separate utility relocation plans are required; such plans shall be prepared in the same basic format as the Utility Plan sheets referenced in Section 24. Further, the following additional provisions shall apply.

The following order shall be used for placement of separate utility relocation plans into the plan set.

- Water/Sewer Relocation Plans
- Electric Relocation Plans
- Gas Relocation Plans
- Communications Relocation Plans
- Cable Relocation Plans

Drawing numbers for the sheets shall start at 44-001 and continue sequentially to the end of all utility relocation plan sheets, regardless of the type of relocation plans. For example, the Water/Sewer Relocation Plans may be 44-001 through 44-010, the Gas Relocation Plans may be 44-011 through 44-023, and the Cable Relocation Plans may be 44-024 through 44-034.

44.002 Required Information for Utility Plan Sheets

The following requirements are applicable to all Utility Relocation Plan sections.

- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”

- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

The Utility Relocation Plans should include the following sheets:

- Separate stand-alone (with no sheet number or drawing number) Summary of Quantity sheets (to be placed with the Roadway Summary of Quantities)
- Proposed Utility Legend & Notes
- Utility Relocation Plan Sheets
- Utility Profile/Cross Sections (as required)
- Utility Detail Sheets (as required)

The following describes the contents for each sheet type:

Summary of Quantities Sheets

- The Summary of Quantities sheets shall be prepared in standard GDOT format and should show any quantities tabulated for type, location (i.e. station/offset), size, quantity, etc. Standard notes referring to item numbers shall also be shown on this sheet or on plan sheets.
- These shall be developed as separate and stand-alone (with no sheet number or drawing number) Summary of Quantity sheets (to be placed with the Roadway Summary of Quantities).

Utility Legend & Notes

- Utilities Legend specific to the proposed utility construction presented on the respective Utility Relocation Plan set.
- Miscellaneous utility notes and specifications required for the construction and coordination of the proposed utility facility relocation with roadway and other utility construction.

- The disposition and final ownership of any utility infrastructure that is to be removed by the contractor and salvaged shall be identified in the plans. The address of the Utility/Agency Owner receiving the salvaged utility infrastructure shall be included in the notes.
- SUE Quality Level A Test Hole Data Table specific to the proposed utility construction presented on the respective Utility Relocation Plan set.

Utility Relocation Plan Sheets

Utility Relocation Plan Sheets shall show full construction details for all utilities to be relocated or constructed by the contractor. All underground utilities shall be shown in the plan view. When deemed necessary to provide enough detail for construction, all underground utilities shall also be shown in a profile view. The Project Manager/plan preparer should consult with the District Utilities Engineer to determine the requirements in these cases. All above ground utilities shall be shown in the plan view (inclusive of underground connections). When the construction clearances are restricted, such as when a power line is above and near a sanitary or water facility, either the facility (overhead lines) must be identified and shown in profile, or the minimum available vertical clearances, along with the type facility, shall be stated on the plans. Applicable project information shall be shown similar to that described in Section 24 of this document. When practical, the scale used should be the same as that used for the roadway plan-profile sheets.

The following items should be shown as screened back:

- Construction centerline with project stations and begin/end project limits
- Curb and gutter or edge of pavement (proposed and existing)
- Road and street names
- Existing and Required Right of Way limits
- Property lines
- Environmentally sensitive area limits (including archaeological sites)
- Property owners
- All proposed and existing easements (including existing and proposed utility easements)
- Proposed and existing drainage structures/features (excluding drainage text)
- Limits of existing and proposed sediment basins & detention/retention ponds.
- Proposed construction limits (C/F lines).
- Topographical planimetrics (i.e. existing buildings / structures, existing tree/vegetation limits, lakes, rivers etc.).
- All proposed bridges (including bent, column & footing locations when utility crossings are present).
- All culverts, walls, sign structure footings and other structures.
- All proposed and existing strain poles (signal, ATMS, sign, lighting)
- Railroad mainline and spur tracks with their respective property/easement limits
- Project Survey control point locations

The following should only be screened back when not associated with the subject Utility Relocation Plan set:

- Location and labeling of existing gas valves and shut-offs (when not associated with the subject Utility Plan section)
- Location and labeling of existing water valves and shut-offs
- Existing overhead and underground utilities found within the project's limits (including size and material if known).
- Sanitary sewer manhole top, and invert elevations. Sanitary Sewer pipe flow directions
- All proposed, temporary, and relocated utility facilities with annotation describing nature of work.
- Disposition of all existing utilities (i.e.: "To be removed", "To be Adjusted", "To be Abandoned", "To Remain", "To be Relocated", etc.)
- Define utility work as to which is to be done by the Department's contractor and which is to be done by others
- Utilities to be relocated (or removed, or installed) prior to construction shall be labeled on the plans as "To be relocated (or removed or installed) by others prior to roadway construction"

Utility Profiles / Cross-Sections

- Proposed utility facility profiles, cross-sections and staging cross-sections (as required).
- Proposed water and sanitary sewer plan/profiles (as required).

Miscellaneous Proposed Utility Details

- Any miscellaneous proposed utility details
- Quality Level A Test hole data sheets (if applicable)

44.003 Sheet Layout

44.004 Miscellaneous

- Ensure that all proposed and existing utilities are coordinated with the respective project's Construction Staging and Erosion Control Plans. For complex projects with multiple stages, it is necessary to prepare the Utility Relocation Plans in the same format and sheet layout as the project Staging Plans.
- If bridge plans are included in the project plans, make sure the plans have made accommodations for utility crossings and attachments, if applicable.
- For further information regarding SUE, Utility Relocation and Accommodation Policy, see the Office of Utilities Website:
(<http://www.dot.state.ga.us/dot/operations/utilities/index.shtml>).

Section 50-56 EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS**I. GENERAL**

The Erosion Sedimentation and Pollution Control Plan (ESPCP) contains the recommended types and general locations for permanent and temporary erosion control items. An ESPCP is required for every project regardless of the size of the disturbed area. For all GDOT projects, plans must be presented in accordance with General NPDES Permit No. GAR 100002-Infrastructure as reflected in the following sections.

Projects that disturb 1 acre or more require a complete ESPCP, the contents of which are outlined in this chapter:

Projects that disturb less than 1 acre require only an abbreviated ESPCP. An abbreviated ESPCP contains:

- Erosion Control Legend Uniform Code Sheet
- BMP Location Details
- Applicable standards and construction details for BMP's specified in the Plan.

Section 50 COVER SHEET**50.001 General**

The ESPCP cover sheet is required for projects that disturb 1 acre or more.

50.002 Required Information

The ESPCP cover sheet includes the following:

- Project name
- Project number
- Project identification number (P.I. No.)
- State and Federal route number
- County name and number
- Project location map oriented with north at the top of sheet (the permit calls this a vicinity map)
- Project limit stations (labeled on centerline)
- Project midpoint in lat-long format
- Identify impaired stream segments that are within the limits of the cover sheet.
- Equalities
- Begin and end bridge stations (labeled on centerline)
- Stream names
- Road names
- Graphic scale
- North arrow
- State Lines, County Lines, City Limits, Land Lot Lines (where applicable)

- Revision block with room to provide the date, page numbers, Signature and GSWCC level II certification number for each construction revision to the ES&PC plans
- Plans prepared by note
- Plans completed date (submitted to Contracts)
- Design Professional's stamp (Plans designed by a consultant require the stamp and signature of a Georgia-licensed P.E. [or R.L.S., P.G., R.L.A., R.A., R.F., C.P.E.S.C.] with GSWCC level II certification employed by the firm)
- Design Professional's GSWCC Level II certification number
- Design Professional's Certification statements

Additional items may also be shown to delineate other important elements. These items may include, but are not limited to, limits of construction labels, existing property lines, parcel numbers, required right-of-way, median locations, and sidewalks.

50.003 Sheet Layout

Section 51 EROSION, SEDIMENTATION AND POLLUTION CONTROL GENERAL NOTES SHEET**51.001 General**

Required for projects that disturb 1 acre or more.

51.002 Required Information:

- Utilize the standard plan sheet cells with all standard General Notes as described on the Department's ESPCP Notes Template. Add additional project specific information as necessary and add other information as required by the applicable NPDES permit.

51.003 Sheet Layout

Multiple sheets may be necessary.

Section 52 EROSION CONTROL LEGEND AND UNIFORM CODE SHEET**52.001 General**

Required for all projects. These sheets contain the standard legend for erosion and sedimentation measures and practices. All Measures are compatible with and meet or exceed the requirements set forth in the Manual for Erosion and Sediment Control in Georgia. Use GDOT standard Erosion Control Legend sheets. Add “codes” for any additional special design BMPs that are required to the erosion control legend sheets. **Do not put legends on individual BMP sheets.**

52.002 Required Information

All information needed to meet the requirements of legends for GAR 100002 shall be included.

52.003 Sheet Layout

Link to an example Erosion Control Legend and Uniform Code Sheet
(Under development, the sheets can be downloaded from Construction Details Website)

Section 53 DRAINAGE AREA MAP

53.001 General

Required for projects that disturb 1 acre or more. This sheet is similar to the [drainage area map](#) included with the construction plans. All area calculations shall be in acres.

53.002 Required Information

- Identify all state waters on or within 200' of the project site.
- Identify any ponds or lakes within 500' of the project site
- Label applicable Bio F and Bio M impaired stream segments that are within the limits of the plan sheet.
- For each outfall identify:
 - Station for each outfall
 - The skew angle and size of the pipe or culverts
 - 50- and 100-year Pre- and post-construction peak flows
 - 50- and 100-year Pre- and post-construction velocities corresponding to the peak flows
 - Headwater elevations corresponding to the 50- and 100-year Pre- and postconstruction peak flows
- Total drainage acreage contributing to each outfall
- Total disturbed acreage of each outfall
- Total disturbed area for the project.
- Total project size. (This includes both disturbed and undisturbed areas within the project limits)
- Pre- and post-construction Runoff Coefficients
- Show and label receiving waters and other significant drainage features, and show the direction of flow of each.
- Show roadway overtopping elevation(s) and the past high-water elevation and date of occurrence in plan view, if available;
- Show applicable roadway names and centerline.
- Show beginning and ending project limits
- Show beginning and ending of bridge/bridge culverts
- Show the drainage patterns of individual basins. Include flow arrows and average outfall channel slopes. Use Insets to show areas that are of such magnitude that the boundaries cannot be plotted at the selected scale.
- Show and note by structure number, all existing and proposed cross-drain structures, pipes, outfall structures, and retention/detention pond locations. Label existing structures that are to be removed or plugged, if any. Refer to the Department's standard legend for correct symbols for existing drainage facilities.
- Stream Buffer Delineation (Diamond line code) with the following description "ESA - 25' or 50' stream buffer"
- Orange Barrier Fence (Solid circle line code) with the following description "Orange barrier fence"
- Wetland Boundary delineation (Diamond line code) with the following description "ESA - Wetland Boundary"

- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”

53.003 Sheet Layout

Section 54 BEST MANAGEMENT PRACTICES (BMP) LOCATION DETAILS**54.001 General**

Required for all projects. These sheets show the locations of all BMPs installed during the construction of the project.

54.002 Required Information

The ESPCP plans shall be designed and shown to accommodate all stages of construction. Staging will be designated numerically. Any substages that are necessary will be designated alphanumerically. All ESPCPs include a Stage 1A plan that shows the installation of BMPs prior to the clearing phase and any major earthwork or major construction. Items used should only be shown for the applicable stage. The sheets will need to include a note reading "STAGE X BMP LOCATION DETAILS" The ESPCP may include stage 2A, 2B, etc. as applicable. The staged ESPCP plans shall address the initial, intermediate and final BMP phases for each stage of construction.

Include the following minimum requirements on Preliminary ESPCPs:

- Construction centerline with stationing
- All edges of pavement
- Construction limits
- Right of Way
- All easements
- Location of all drainage structures
- Streams
- Stream Buffers
- Label Bio impaired streams
- Lakes
- Wetlands
- Rivers
- All topographical information, except contours
- All BMPs constructed for each stage of construction in bold format with the proper code designated by the Department's Erosion Control Legend and Uniform code sheets. These items include, but are not limited to:
 - All ditch protection of any type, temporary or permanent, and ditch widths and depths of protection. (The width and depth may be shown in tabular format. Each type of ditch protection will have a different code on the plan sheet.)
 - Silt fence type "A," "B," "C" and baled straw will be shown as required. They each have their own code.
 - Silt control gates type "1," "2," and "3," will be shown by their code.
 - All sediment basins.
 - Riprap slope protection by its code.
 - Any other form of slope protection with its code.
 - All down drain structures temporary or permanent by its code.
 - Silt retention barrier as recommended by the soil's lab.
 - Storm drain outlet protection.

- Any other item that may be required for proper erosion control and anything that may be directed by another agency.
- Limits of disturbance for each stage.
- Any utility relocations that the contractor is performing during the respective stage. (Ensure that BMPs included are adequate for the utility work that is proposed within the GDOT ROW or easements.)
- All waters of the state within 200' of the project limits.
- Stream Buffer Delineation (Diamond line code) with the following description “ESA - 25’ or 50’ stream buffer”
- Orange Barrier Fence (Solid circle line code) with the following description “Orange barrier fence”
- Wetland Boundary delineation (Diamond line code) with the following description “ESA - Wetland Boundary”
- Historical Boundary delineation (Diamond line code) with the following description “ESA- Historical Boundary”
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description “ESA”
- Archaeological Resource delineation (Diamond line code) with the following description “ESA”
- Cultural Resource delineation (Diamond line code) with the following description “ESA – Cultural Resource”
- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”
- Project specific allowable activities notes

54.003 Sheet Layout

Set up sheets with the same scale and matchlines as the construction plans.

Section 55 EROSION CONTROL WATERSHED MAP AND SITE MONITORING LOCATION**55.001 General**

Required for projects that disturb 1 acre or more.

This sheet delineates the surface water drainage area(s) of the receiving water(s); hence the name, watershed map. Normally, a USGS topographic map serves as a base map for the superposition of the site-related particulars; but other maps may be used provided that scale and content meets or exceeds that of a 7.5 minute series USGS Topographic Map. The map shows the entire project area, the location of all perennial and intermittent streams and other waters of the state that receive stormwater from the site, and the receiving water or outfall sampling location for each representative sampling point.

55.002 Required Information

- North arrow
- Scale bar – with a minimum scale of 1" = 2000'
- Highlighted project location
- Begin and End project
- Sampling locations
- Drainage areas
- Flow arrows and topographic contours
- Receiving waters
- Waters of the state
- Label Bio F and Bio M impaired streams.
- Label and identify watersheds portions that are within 1 mile of Bio F and Bio M streams.
- Bodies of water or ponds downstream of the project
- All project outfalls
- Highlight outfall drainage paths to its confluence point with the nearest blue line stream.
- Stream Buffer Delineation (Diamond line code) with the following description "ESA - 25' or 50' stream buffer"
- Orange Barrier Fence (Solid circle line code) with the following description "Orange barrier fence"
- Wetland Boundary delineation (Diamond line code) with the following description "ESA - Wetland Boundary"
- Historical Boundary delineation (Diamond line code) with the following description "ESA- Historical Boundary"
- Threatened or Endangered Species Habitat delineation (Diamond line code) with the following description "ESA"
- Archaeological Resource delineation (Diamond line code) with the following description "ESA"
- Cultural Resource delineation (Diamond line code) with the following description "ESA – Cultural Resource"

- Hazardous Material delineation (Diamond line code) with the following description “ESA – Hazardous Material”
- Environmental Justice delineation (Diamond line code) with the following description “ESA – Environmental Justice”

55.003 Sheet Layout

Section 56 CONSTRUCTION STANDARDS AND DETAILS (FOR EROSION CONTROL ITEMS ONLY)**56.001 General**

Required for all projects. These sheets contain standard erosion control details required for the construction of the BMPs described within the plan.

56.002 Required Information

All information to fill the requirements of construction details for GAR 100002 shall be included. The Standards and Construction Details for all Uniform Code items that are available on the Department's website meet or exceed all requirements. Special Details, when necessary, must meet or exceed the criteria in The Manual for Erosion and Sediment Control in Georgia.

Several details may require the designer to fill in addition site specific information, such as the Sediment Basin Detail.

56.003 Sheet Layout

Link to an example Construction Detail sheet
(Under Development, the standard sheets can be downloaded from Construction Details Website)

Chapter 3 – RIGHT-OF-WAY SECTION PRESENTATION

Please refer to the [Checklist for Right of Way Plans](#) and the [Checklist for Right of Way Plans – LCI, CMAQ, and Enhancement Projects](#) for more detailed and specific information on required items to be included on Right of Way Plans.

3.1 COVER SHEET

3.1.1 General

A Right of Way cover sheet is required for each set of Right of Way Plans. This cover sheet is important for use in Right of Way acquisition and for project identification.

3.1.2 Required Information

The Right of Way cover sheet should include the following as a minimum:

- Right of Way project number
- Project identification number (P.I. NO.)
- State and Federal route number
- Road names
- County name
- Project location map oriented with north at the top of sheet (Flag project site and show North Arrow)
- Limited Access project note
- Begin and end right of way acquisition (labeled on centerline)
- Parcels numbered
- Gross length of Right of Way project
- Net length of Right of Way project
- Conventional Signs Legend
- Revision Block
- Equalities
- Graphic scale
- North arrow
- City Limits (where applicable)
- County Lines (with counties labeled)
- Land Lot Lines and numbers
- Land District Lines and numbers
- GMD Numbers and Lines (where applicable)
- Stations on primary centerline used throughout project
- State Right-of-Way Administrator signature box
- Limits of Right of Way Acquisition (crossroads)
- Limited Access labeled and shown required and existing with appropriate symbols
- Existing and required right of way (labeled and shown)
- Dual Project Plans, clearly identify each project

- Plans prepared by note
- Location & Design approval date
- Plans completed date
- Back property lines

3.1.3 Sheet Layout

3.2 RIGHT-OF-WAY PLAN SHEETS

3.2.1 General

Right-of-Way plans are necessary for the acquisition of the required right-of-way and easements for the project. Proper representation of the right-of-way and easements are required to ensure their proper legal interpretation for property acquisition and deed description as well as limits of construction activities and potential environmental and property concerns.

3.2.2 Required Information

- North arrow
- Graphic Scale
- RW Data Tables showing all required information to be included for each parcel having required right-of-way and/or easements.
- The survey or construction centerline and any other related centerlines, clearly labeled with:
 - Street name (including mainline, State Route and U.S. Numbers)
 - Stations
 - Bearings
 - Curve numbers.
- Construction limits
- Edges of pavement (existing and proposed)
- Existing and Required Right of Way points at PC and PT points
- Median locations
- Driveway locations.
- Revision blocks with space for dates and brief description of revision.
- Curve data tables.
- Major drainage such as culverts, channel changes; particularly all outfalls that affect right-of-way and/or require easements.
- Owner's names
- Parcel numbers
- Existing and required right-of-way lines and labels
- Easement lines and labels

- Right-of-way and easement point numbers used in area computations
- Land Lot Numbers and lines (shown and labeled)
- Land District Numbers and lines (shown and labeled)
- G.M.D. Numbers and lines (shown and labeled)
- Land Lot and Land District Numbers that occur on each individual sheet at the lower right corner of the sheet above the title block.
- Full stations and offsets for driveway easement points. If a driveway easement point occurs where there is already a right-of-way or other easement point that has a point number shown on the plans and therefore has the station and offset shown in an area table, then the station and offset need not be shown on the plan. Also, if more than one centerline is used, state which centerline the information is taken from or provide a general note.
- Existing and required limits of access labeled
- Provide BLA and ELA with station and offset at access break points.
- Show begin/end each project for dual project plans.
- Begin and end right-of-way acquisition.
- Limits of Right of Way acquisition labeled on sideroads
- "Legend" for L/A, Existing and Required right-of-way, Property Lines, Construction Limits, Easements and any other symbols used on the plans, as required in Memo No. 12 dated 8/12/89.
- Angles and stations where centerlines cross streets.
- Equality stations (if any).
- All proposed and existing utility easements and their respective owners.
- Utility relocations
- Dual County projects - Show only the county pertaining to that individual sheet in the title block. Flag the county line station on the centerline.
- City limits
- Provide coordinates for two points only on the centerline for each plan sheet. These points should be reference points such as PC's, PT's, side street centerline intersections or railroad intersections. If reference points are not available, use even stations.
- Right-of-way from railroads should be referenced from both the centerline and to the nearest railroad milepost. Provide coordinates. See TOPPS Policy 6865-9.
- Locating the railroad milepost applies to all areas of right-of-way and easement which are not contiguous.
- Label all property line with the "pl" symbol.
- Label all buildings if data is available.
- Signs
- Gas pump islands
- Gas tanks
- Septic tanks
- Sewage field line locations
- Permanent light fixtures.
- Locate and annotate signs within the required right-of-way.
- Reference parcel numbers to other plan sheet(s) necessary to cover the entire parcel.

- When more than one tract of required right-of-way exists for a parcel, label each as Tract 1, Tract 2, etc., on the plan sheet(s) where the tract occurs.
- Label all easements and pattern according to the legend.

Delineation - Important features of the Right-of-Way plans must be clearly shown.

- Right-of-way lines
- Easement limits
- Property lines
- Improvements
- Parcel identification numbers
- Dimensions

Property Lines

- Locate and depict the property lines accurately and concisely on the plans with adequate ties to the centerline and required right-of-way so that a legal description can be drawn for the deeds and condemnations.
- Parcel owner's name
- Dimensions and bearings on property lines within the right-of-way shall be clearly and accurately shown in area tables for each parcel

NOTE: Dimensions and bearings on property lines outside the right-of-way are not to be shown except by plotting to scale.

For property lines comprised of a horizontal curve:

- Arc length
- Chord length
- Chord bearing
- Radius

Improvements and Culture - Indicate all pertinent data that may affect the cost of the right-of-way on the plans. Some of these include:

- Structures
- Roads
- Streams
- Ponds
- City limits
- Orchards
- Fences
- Wells
- Septic tanks
- Sewage field lines
- Springs
- Commercial signs on or near the required right-of-way
- Various improvements - Show any improvements located outside the right-of-way that might have an influence on the appraised value to scale on the plan sheet.

Right-Of-Way

All permanent structures and facilities which require maintenance by the Department on right-of-way or permanent easements

Easements

- Show required easements accurately on the plans.
- Adequately dimension easements in the area tables utilizing station and offsets so that they can be precisely located on the ground.
- Show the areas of all easements, except driveway easements in square feet.
- Parcels with easement acquisition only (except driveway easement) should reflect a remainder or total lot size.
- Parcels with access rights only should reflect parcel number, owner, linear feet of access rights, and parcel remainder (total area).
- Station/Offset or Points/Descriptions on all driveway easement points
- Large easements (over 1 acre) in rural areas may be shown in acres.
- Label the easement as to use, such as for slopes, installation of utilities, drainage, or as a detour, as appropriate.
- Label easements for a type of construction that does not require maintenance by the Department as: "Easement for the construction of _____ " with the actual purpose of the easement being specified on the plans. Examples of this type of construction are:
 - Channel changes
 - Driveways
 - Yard drains
 - Tree wells
 - Steps and sidewalks leading into residences or places of business
 - Provide a working area outside of the right-of-way where construction activities require it.
 - Demolition
- Label easements for a type of construction that will require future maintenance by the Department or others as: "Easement for the construction installation, maintenance, & operation of utilities and maintenance of _____". An example of this type of construction is a retaining wall tie back system.

Subdivisions

- Show the remaining property to scale. (In cases where the back of the lots cannot be shown to scale, a break may be shown on the property lines with the distance to the back of the lot shown approximately in feet.)
- Include inserts (if necessary) on the right-of-way detail plan to adequately show information pertinent to the individual lots.
- The subdivision may be shown on the cover sheet as an outline of the entire subdivision with a notation as to the parcels included.
- Show all roads or streets, including names, on the detail plan or cover sheet.

Railroad Crossings

- Label intersections of centerline of railroads and roadway centerline with station and angle
- Width of the right-of-way
- Name of railroad
- Each track by symbol and distance
- Direction along the railroad right-of-way to the nearest mile post number
- Railroad I.D. number

Intersecting Roads and Existing Streets

- Label intersection of all paved and maintained public roads by station and angle, equated to the station of the survey of the intersected road
- Show the name of the road, state and federal routes, if any, and the right-of-way width of the road.

Provide details of private roads and access roads to parking lots and commercial centers on the right-of-way plans.

Limited Access

- Reflect partial limited access
- Show the access control lines by the conventional limited access symbols.
- In areas where the limited access line and the right-of-way lines are in the same location indicate both.
- Indicate the exact beginning and ending of limited access at interchanges or crossroads with an arrow and the symbols E L/A or B L/A and the station and offset as appropriate.
- Clearly indicate any intermediate breaks in the limited access.
- Where the right-of-way and limited access lines coincide, label as "Required Right-of-Way and Limit of Access."

Parcel Numbers

Show the following on the right-of-way tables for each parcel:

- Parcel number to each parcel for which right-of-way, easement (any type) or access rights is being acquired starting with parcel one at the beginning of right-of-way acquisition and numbering consecutively through the end of right-of-way acquisition.
- Separate parcel number for adjoining parcels under the same ownership
- Wetland mitigation parcels shall be designated with a "w" in the parcel number.

Area Tables

If sufficient space is available, then place the required area tables on the right-of-way plan sheets. If space is not available on the right-of-way plan sheets then provide a separate sheet immediately following the plan sheet containing the area tables for the parcels on the preceding plan sheet. Provide references on the plan sheets that indicate the location of the sheet where the tables can be found and vice versa.

- Provide the following for each point needed to compute the area of required right-of-way or easement (excluding driveway easement):
 - Point number
 - Offset

- Station
- Alignment taken from (State Route number or Road Name)
- Distance and bearing between each point
- A separate area computation will be provided for each tract of required right-of-way and easement (excluding driveway easement).
- Provide the following for all curved lines between points. Exception: Bearings are not required on existing right-of-way lines.
 - Arcs
 - Radius
 - Chord length
 - Chord bearing
- Indicate the area of required right-of-way and permanent easement in square feet and acres.
- Indicate the area of temporary easement in square feet.
- Do not show areas of driveway easements.
- Show separate areas for each remainder for parcels with remainders on each side of the project or cross street. Provide a remainder or the total lot size for parcels with Required R/W acquisition only.
- For parcels with access rights only (no required right-of-way or easements), provide parcel number, owner, linear feet of access rights (point to point distance and total distance) and parcel remainder (total area).
- If a parcel has more than one tract of required right-of-way then each tract shall be labeled as Tract 1, Tract 2, etc. Provide the above information for all tracts. In the area table for the last tract indicate the required area for that tract, the total area of required right-of-way for the parcel and the remainder left and right.
- If a parcel has more than one area of required easement, then indicate the required easement for all areas. Indicate the type of the easement. In the area table for the last area indicate the required area for that area, the total required easement for the parcel for each type easement(except driveway).
- Keep all the separate tract area tables for an individual parcel grouped together.
- Areas of required right-of-way
- Remainder on the left
- Remainder on the right.
- Show the area for each tract of required right-of-way for a parcel in square feet and also in acres.
- Tables arranged such that parcel descriptions proceed in a clockwise direction

Use the symbols: RR = Area Remaining on the Right of the Right-of-Way Line and RL = Area remaining on the Left of the Right-of-Way Line. In preparing right-of-way plans, do not refer to area taken as "take" or the letter "T" but refer to as "Required Right-of-Way" or "Req'd right-of-way". Compute the needed area in acres to the third decimal with the remaining areas to be shown to the nearest one hundredth (0.01) acre for areas under one acre, to the nearest tenth (0.1) acre for areas between one acre and ten acres, and to the nearest acre for areas in excess of ten acres.

- During the appraisal review process, if a determination is made by the Department that a parcel remainder is an uneconomic remnant, the plans shall be revised as follows:
 - Required right-of-way remains the same.
 - Label the property lines of the remnant "Limit of Property Acquisition".
 - Identify the remnant area using the subject parcel number with an "R" suffix. If a parcel has more than one remnant then use the "R" suffix with a number. For example: Parcel 35 has two remnants. Therefore, indicate each remnant as 35-R1 and 35-R2.
 - The area breakdown of such a parcel could be shown as follows:

	<u>Area Required</u>	<u>Rem.</u>
35	15.375 Ac. (right-of-way)	29 Ac. (RL)
35-R1	0.662 Ac.	
35-R2	0.300 Ac	
	16.337 Ac. (Total)	

3.2.3 Sheet Layout

Prepare the detail plans and cover sheets on mylar using the same scale requirements as for the construction plans.

3.2.4 Miscellaneous

The basic format for the right-of-way plans will be same as for the roadway plans. There are, however, elements that appear on the right-of-way plans that are not found on the roadway plans, such as metes and bounds. For easement patterns and line codes, refer to the standard legend placed on each right-of-way plan sheet.

Other Requirements - The following are additional items which the plan preparer shall follow in the preparation of right-of-way plans:

- Make sure that linework and text on plans are dark enough to show on prints and on a reduced letter size print. Property lines and construction lines should clearly stand out.
- Full station shall be used on all right-of-way, easement, and property lines rather than the station plus only.
- Do not shade right-of-way plans.
- Do not begin or end (if possible) projects in the middle of a parcel if there is to be a future project.
- When plan sheet is revised, revision block shall include date and brief description of the revision.
- Describe tracts in a clockwise direction to facilitate deed writer's description.

APPENDIX**Sample Plan Set**

(All sheets listed below are contained at the end of this document and can be printed as a sample set)

Cover Sheet
Index Sheet
Revision Summary Sheet
General Notes
Typical Sections Sheet 1
Typical Sections Sheet 2
Typical Sections Sheet 3
Summary of Quantities Sheet 1
Summary of Quantities Sheet 2
Quantities Amendment
Quantities Construction
Detailed Estimate
Traffic Diagram
Construction Layout Sheet 1
Construction Layout Sheet 2
Plan & Profile Sheet
Plan Sheet
Crossroad Profile Sheet
Driveway Profile Sheet
Staging Plan Sheet
Staging X-Section Sheet
Staging Detail Sheet
Drainage Area Map
Drainage Profile Sheet 1
Drainage Profile Sheet 2
Cross Section Sheet 1
Cross Section Sheet 2
Utility Plan Sheet
Utility Legend Sheet
Signing and Marking Plan Sheet
Landscaping Plan Sheet
Erosion Control Cover Sheet
ESPCP General Notes Sheet 1
ESPCP General Notes Sheet 2
ESPCP Drainage Area Map
BMP Location Details
Watershed Map / Site Monitoring
Right-of-Way Cover Sheet
Right-of-Way Plan Sheet

GLOSSARY TERMS AND ACRONYMS

Term/Acronym	Definition
Construction Limits	The full extents of the construction area from one toe-of-slope of the proposed roadway to the other toe-of-slope of the proposed roadway along the limits of the project corridor. (Cut/Fill Lines)
Drainage X-Sections	Roadway cross-section showing a drainage profile as defined in Section 22 of this document
Equality	Another term for “Station Equality” - See “Station Equation” below
GMD	Georgia Militia District (GMD)
GDOT	Georgia Department of Transportation
Project Limits	The full extents of the actual area where clearing, grading, excavation, or contractor activities are occurring or will occur along the length of the project, including utilities within the contract.
Roadway Items	Everything included in plan view such as, but not limited to station tick marks, road names, station labels, Centerline labels, bearings, guardrail, edge of curb & gutter, edge of median, etc.
R.O.A.D.S.	Repository for Online Access to Documentation and Standards – GDOT web page for centralized access to all documentation and standards required for design of roadway projects for the Georgia Department of Transportation.
Station Equation	A point along a horizontal alignment where the stationing is no longer sequential in number and the stationing from that point back is one value and the stationing from that point forward on the alignment starts at a different value. [eg: Station 100+50 (Back) = Station 204+50 (Forward)]
Station pluses	Station value on the right side of the “+” sign (eg: Station 12+50 would be +50) – used to save space on plans
SUE	Subsurface Utility Engineering – is defined as the engineering processes that involve managing certain risks associated with accurately and comprehensively identifying, characterizing, and mapping overhead and underground utility facilities. The major activities include utility records research, mapping, designating, utility impact analysis, locating, and data management.
Topo	Topography - The representation of a portion of the earth’s surface showing existing natural and man-made features of a given area such as rivers, streams, ditches, lakes, and roads, as well as the variations in ground elevations for the existing terrain of the area.
Contour	Lines of constant elevation
Metes and Bounds	A system of land description using distance (metes) and directions (bounds) beginning and ending at the same point.

Screened back	The elements are faded so they appear in the background. (Also known as “gray-scale”)
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DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

PLAN AND PROFILE OF PROPOSED

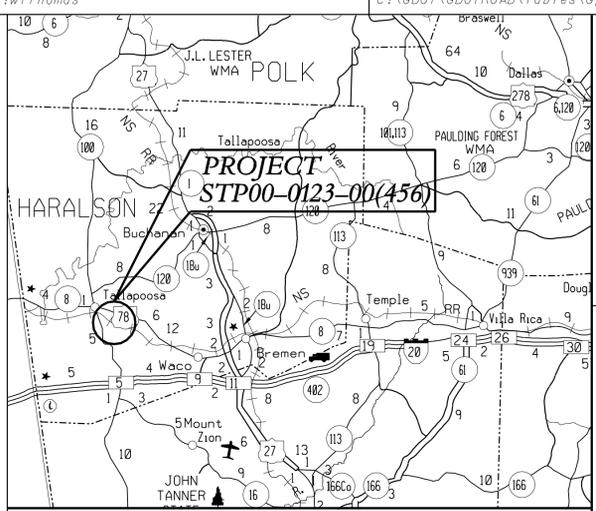
S. R. 100 Spur Truck Route

FEDERAL AID PROJECT
STP00-0123-00(456)
Haralson County

FEDERAL ROUTE * N/A
STATE ROUTE * 100
P.J.NO. 123456



NOTE :
ALL REFERENCES IN THIS DOCUMENT WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA," "STATE HIGHWAY DEPARTMENT," "GEORGIA STATE HIGHWAY DEPARTMENT," "HIGHWAY DEPARTMENT," OR "DEPARTMENT" WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.



LOCATION SKETCH

DESIGN DATA:
 TRAFFIC A.D.T.: 4000 (2006)
 TRAFFIC A.D.T.: 7000 (2026)
 TRAFFIC D.H.V.: 450
 DIRECTIONAL DIST: 50%
 % TRUCKS: 10
 24 HR. TRUCKS %: 15
 SPEED DESIGN: 45 mph

LOCATION & DESIGN APPROVAL DATE: May 15, 2004

FUNCTIONAL CLASS:
Rural Principal Arterial

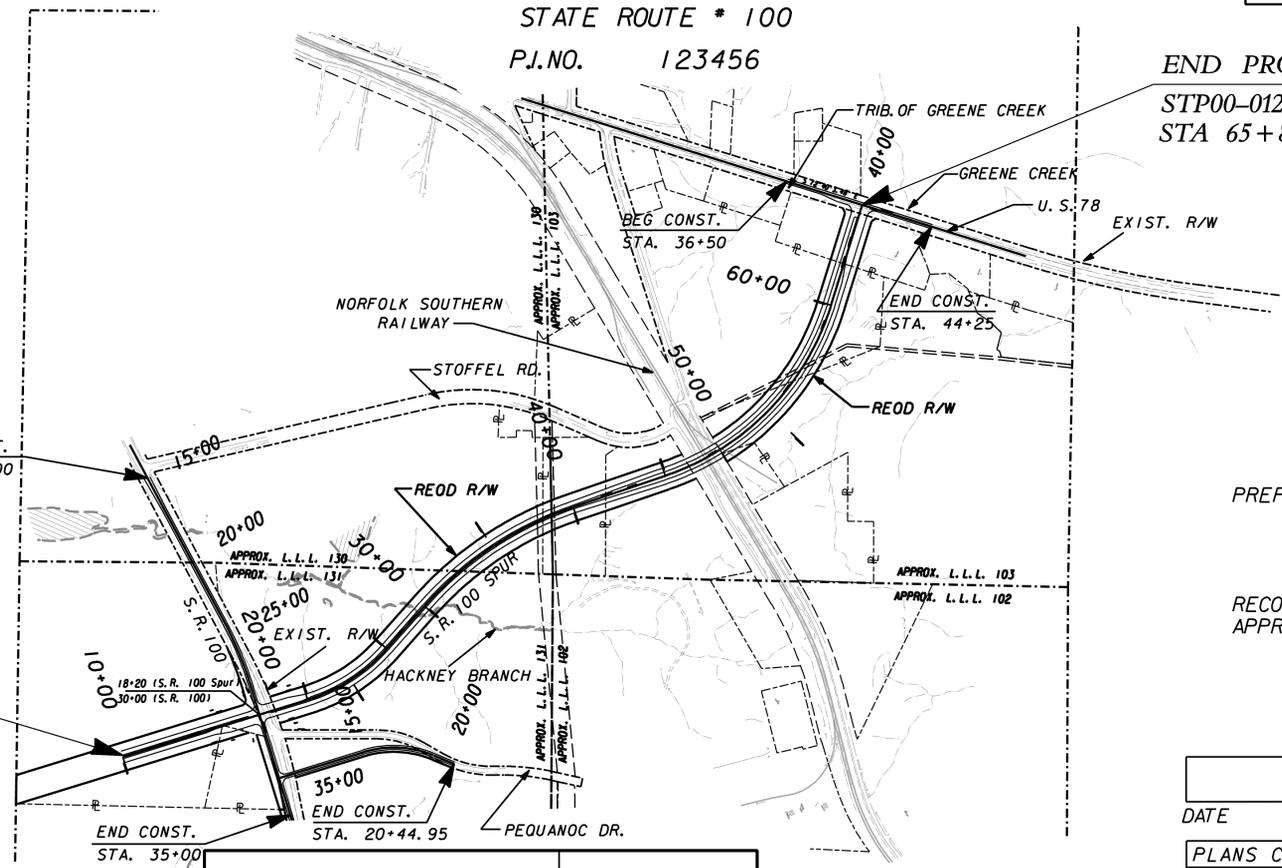
THIS PROJECT IS 10% IN Haralson COUNTY AND IS 100% IN CONG. DIST. NO. 11.

PROJECT DESIGNATION: Exempt DESIGNED IN ENGLISH UNITS.

THIS PROJECT HAS BEEN PREPARED USING THE HORIZONTAL GEORGIA COORDINATE SYSTEM OF 1984 (NAD 1983)/94 WEST ZONE, AND THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

MID-POINT COORDINATES
 STA 38+00 S. R. 100 Spur
 N 1360503. 88
 E 1958780. 41 G.M.D. 653

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANYWAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTIONS 102.04, 102.05, AND 104.03 OF THE SPECIFICATIONS.



END PROJECT
STP00-0123-00(456)
STA 65+85.22

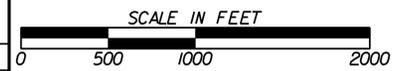
BEGIN PROJECT
STP00-0123-00(456)
STA 10+00.00

PREPARED BY: _____

RECOMMENDED FOR APPROVAL BY: _____

LENGTH OF PROJECT	
HARALSON COUNTY	
NET LENGTH OF ROADWAY	1.058
NET LENGTH OF BRIDGES	
NET LENGTH OF PROJECT	1.058
NET LENGTH OF EXCEPTIONS	
GROSS LENGTH OF PROJECT	1.058

COUNTY No. 143
 Project No.
 STP00-0123-00(456)
 MILES



DATE	CHIEF ENGINEER
PLANS COMPLETED	- -
REVISIONS	

ALL DRIVEWAYS THAT ARE TO BE RECONSTRUCTED SHALL BE PLACED IN KIND I.E. ASPHALT FOR ASPHALT, CONCRETE FOR CONCRETE, AND AGGREGATE SURFACE COURSE FOR DIRT DRIVES. DRIVEWAY RELOCATIONS ARE SHOWN FROM THE BEST AVAILABLE DATA. THE CONTRACTOR SHALL CONSTRUCT NEW DRIVEWAYS TO MATCH THE ACTUAL FIELD LOCATION OF EXISTING DRIVEWAYS OR AS LOCATED IN THE PLANS. RESIDENTIAL DRIVES SHALL BE 14 FEET WIDE AT THE THROAT UNLESS NOTED OTHERWISE IN THE PLANS. COMMERCIAL DRIVES SHALL BE 24 FEET WIDE UNLESS NOTED OTHERWISE IN THE PLANS. THE CONTRACTOR SHALL OBTAIN THE APPROVAL FROM THE ENGINEER PRIOR TO MAKING ANY REVISIONS TO LOCATION, WIDTH, AND/OR NUMBER OF DRIVES TO BE CONSTRUCTED. REQUIRED DRIVEWAY EASEMENTS NOT SHOWN ON THE PLANS SHALL BE ACQUIRED. DRIVES SHALL BE CONSTRUCTED USING:

- ASPHALT - ASPH CONC 9.5mm SUPERPAVE (140 LF/SY)
GRADED AGGREGATE BASE, 6"
- CONCRETE - RESIDENTIAL - DRIVEWAY CONCRETE, 6" THICK

THERE IS NO SUITABLE PLACE FOR DISPOSAL OF THE REMOVED SLABS AND REMOVED BRIDGE OR BRIDGE PARTS WITHIN THE PROJECT LIMITS.



**Know what's below
Call before you dig**

UTILITY OWNER	SERVICE	CONTACT NUMBERS	SHEET NUMBERS

**PIPE CULVERT MATERIAL ALTERNATES
FOR COASTAL PLAIN REGION**

TYPE OF PIPE INSTALLATION	CONCRETE	CORRUGATED STEEL AASHTO M-36		CORRUGATED ALUMINUM AASHTO M-196	PLASTIC			
		ALUMINUM COATED (TYPE 2) CORR. STEEL	PLAIN ZINC COATED	PLAIN UNCOATED ALUMINUM	CORR. POLY-ETHYLENE AASHTO M-252	CORR. POLY-ETHYLENE SMOOTHED LINED AASHTO M-294 TYPE "S"	POLY VINYL CHLORIDE (PVC) PROFILE WALL AASHTO M-304	POLY VINYL CHLORIDE (PVC) CORRUGATED SMOOTH INTERIOR AASHTO F-949
LONGITUDINAL INTERSTATE AND TRAVEL BEARING	X							
LONGITUDINAL NON-INTERSTATE AND NON-TRAVEL BEARING	X	X		X	X	X	X	X
STORM DRAIN	GRADE ≤ 10%	ADT < 250	X		X	X	X	X
		250 < ADT < 1500	X		X	X	X	X
		1500 < ADT < 15,000	X			X	X	X
		ADT > 15,000	X					
GRADE > 10%	ADT < 250		X	X	X	X	X	
	ADT > 250			X	X	X	X	
SIDE DRAIN	X	X		X	X	X	X	
PERMANENT SLOPE DRAIN		X	X	X	X	X	X	
PERFORATED UNDERDRAIN		X	X	X	X	X	X	

NOTE:

1. ALLOWABLE MATERIALS ARE INDICATED BY AN "X".
2. STRUCTURAL REQUIREMENTS OF STORM DRAIN PIPE WILL BE IN ACCORDANCE WITH GEORGIA STANDARD 1030-D OR 1030-P, WHICHEVER IS APPLICABLE, AND THE STANDARD SPECIFICATIONS.
3. GRADED AGGREGATE BACKFILL SHALL BE USED IN CROSS DRAIN APPLICATIONS FOR ALL PLASTIC PIPES (AASHTO M-294, HDPE PIPE ; AASHTO M-304, PVC PIPE; ASTM F-949, PVC PIPE).
4. THE CONTRACTOR SHALL PROVIDE ADDITIONAL STORM SEWER CAPACITY CALCULATIONS IF A PIPE MATERIAL OTHER THAN CONCRETE IS SELECTED.

REV. 09-03-08

**GEORGIA
DEPARTMENT
OF
TRANSPORTATION**

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

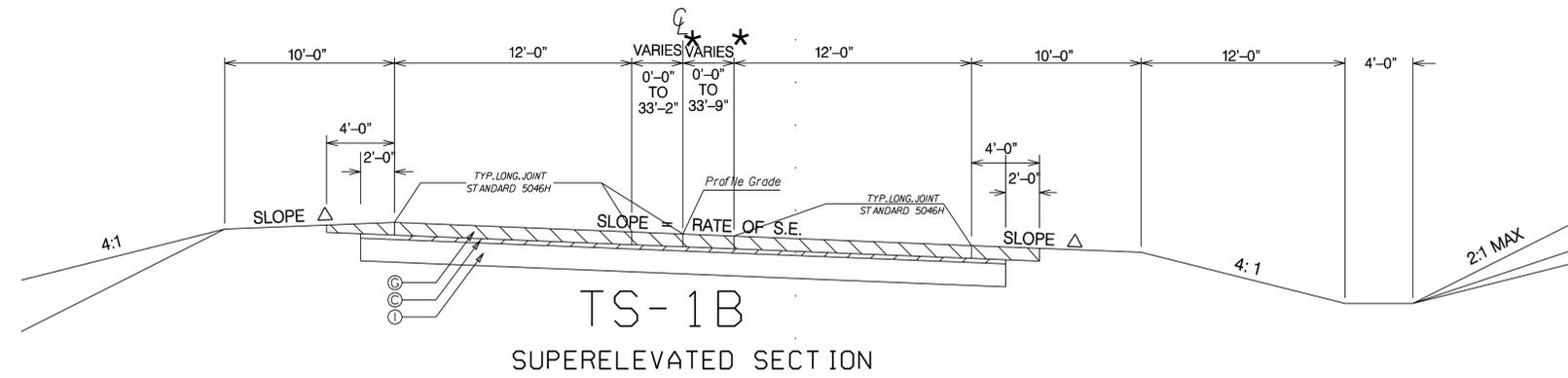
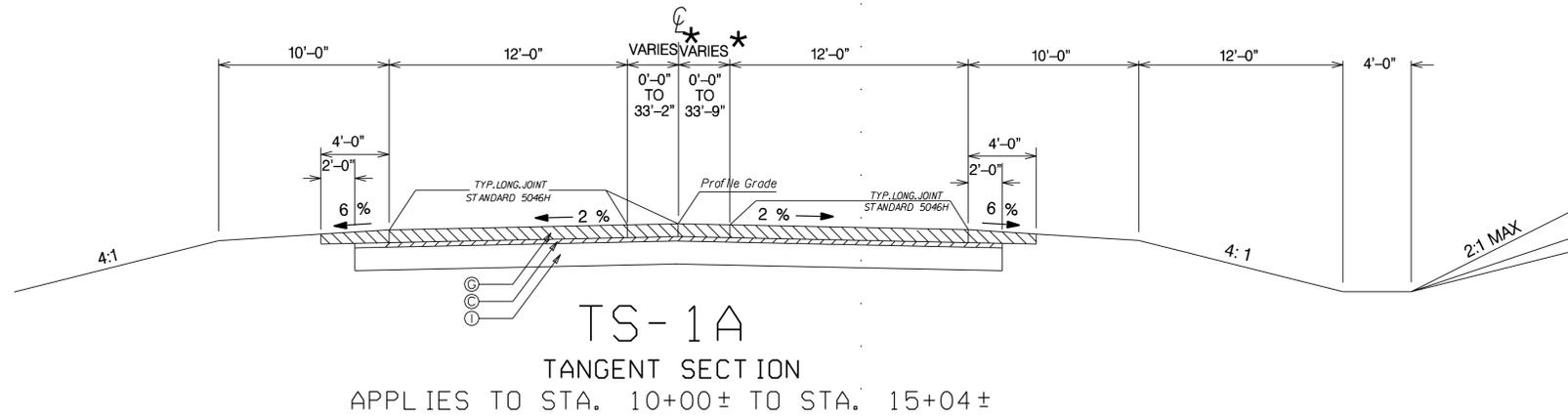
OFFICE:

GENERAL NOTES

S. R. 100 Spur Haralson Co.

DRAWING No.
4-01

S.R. 100 SPUR



SLOPE CONTROLS		
SLOPE	CUT	FILL
4:1	—	0-10'
2:1	ALL	OVER 10'

REQUIRED PAVEMENT:

- ⊙ ASPHALTIC CONCRETE 19 mm SUPERPAVE, 330 lb/yd² MIX DESIGN LEVEL A
- ⊙ PLAIN PORTLAND CEMENT CONCRETE 9 INCHES
- ⊙ GRADED AGGREGATE BASE 16 INCHES

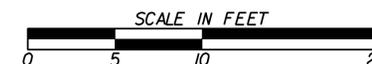
SLOPE Δ : SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS.

NOTE: FOR METHOD OF SUPERELEVATION SEE CONSTR PLAN & PROFILE SHEETS-CURVE DATA. LOCATIONS OF NORMAL CROWN & FULL S.E. NOTED ON CONSTR CENTERLINE.

* SEE PLAN SHEETS.

SHOULDER MAY BE GRADED AWAY FROM ROADWAY TO FACILITATE THE SLOPE TIE TO EXISTING GROUND.

GEORGIA
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

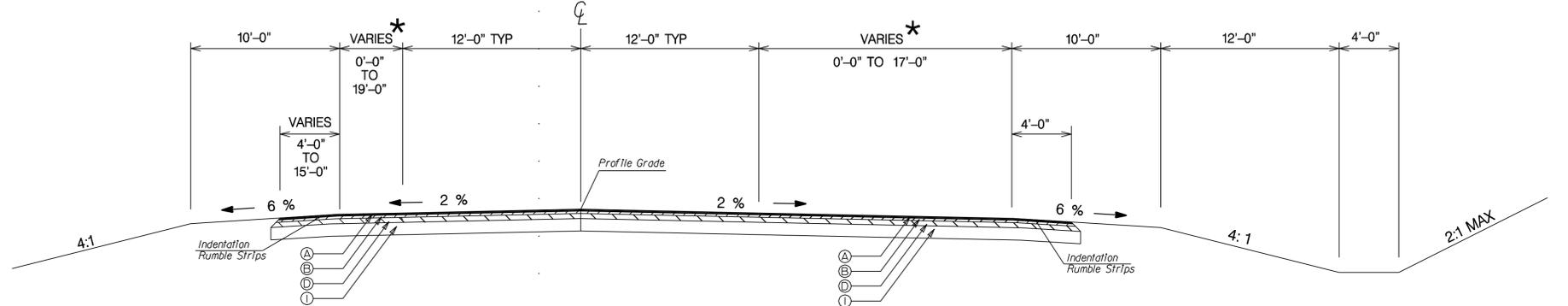
TYPICAL SECTIONS

S.R. 100 Spur Haralson Co.

DRAWING No.
5-01

S.R. 100

SLOPE CONTROLS		
SLOPE	CUT	FILL
4:1	—	0-10'
2:1	ALL	OVER 10'



TS-2A
TANGENT SECTION
APPLIES TO STA. 15+04± TO STA. 41+00±

NOTE: Standard Cross-slope of 2% may be varied as directed by the engineer to best fit the existing roadway as per Sec. 149 of the Supplemental Specifications. See "Allowable Ranges Table".

ALLOWABLE RANGES TABLE

FOR THIS PROJECT, CROSS SLOPES THAT ARE ADJUSTED TO "BEST FIT" EXISTING PAVEMENT SLOPES ARE SUBJECT TO THE FOLLOWING LIMITS:

A. NORMAL CROWN

SECTION WITH GRADES 0.5% OR GREATER	SECTION WITH GRADES LESS THAN 0.5%
0.0150 FT/FT - MINIMUM	0.0156 FT/FT - MINIMUM
0.0208 FT/FT - DESIRABLE	0.0208 FT/FT - DESIRABLE
0.0250 FT/FT - MAXIMUM	0.0300 FT/FT - MAXIMUM

B. SUPERELEVATION RATE

S.E. RATE SHOWN ON PLANS OR SE RATE EXISTING IN FIELD, WHICHEVER IS GREATER.

C. SUPERELEVATION TRANSITION LENGTH (LENGTH FROM FLAT POINT TO FULL SE)

	RATE OF CHANGE	CORRESPONDING DIFFERENCE IN GRADE BETWEEN PIVOT POINT AND EDGE OF PAVEMENT
MINIMUM	1:150	0.67%
DESIRABLE	1:200	0.50%
MAXIMUM	1:300	0.33%

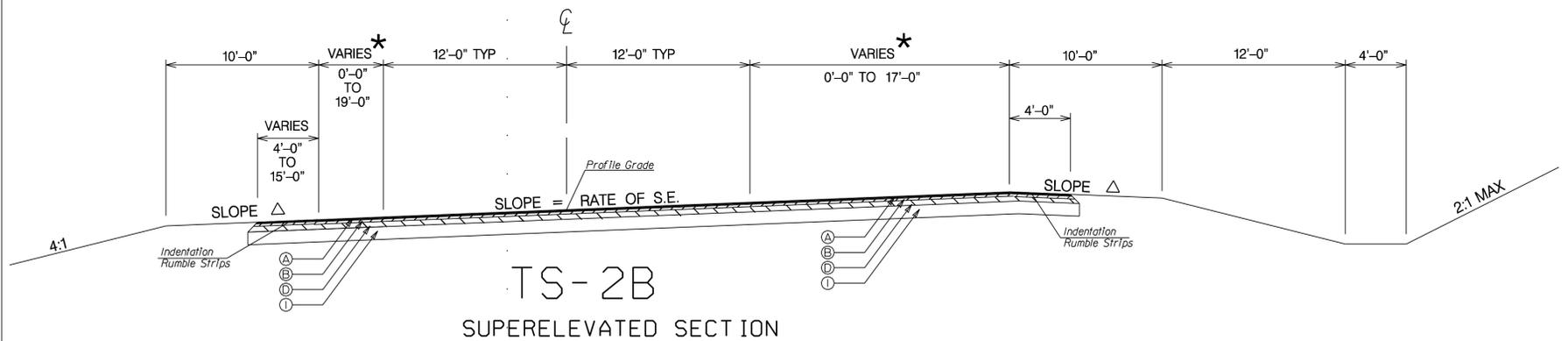
LENGTH SHALL BE SET TO AVOID CREATING A FLAT GUTTER GRADE ON LOW SIDE AND TO AVOID FLAT CROSS SLOPES AT OR NEAR THE LOW POINT OF VERTICAL CURVES.

D. POSITIONING OF SUPERELEVATION TRANSITION LENGTH ON SIMPLE CURVES

- 50% OF TRANSITION INSIDE CURVE - MAXIMUM
- 33% OF TRANSITION INSIDE CURVE - DESIRABLE
- 20% OF TRANSITION INSIDE CURVE - MINIMUM

NOTE: CROWN WIPE-OUT SHALL BE AT THE SAME RATE AS THE SE TRANSITION.

E. SMOOTHING OF BREAKS IN EDGE PROFILE AT BEGIN AND END OF TRANSITION SHALL BE ACCOMPLISHED BY VERTICAL CURVE WITH A MINIMUM LENGTH (IN FEET) EQUAL TO THE SPEED DESIGN (IN MPH).



TS-2B
SUPERELEVATED SECTION

SLOPE Δ: SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS.

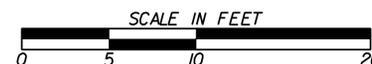
NOTE: FOR METHOD OF SUPERELEVATION SEE CONSTR PLAN & PROFILE SHEETS-CURVE DATA LOCATIONS OF NORMAL CROWN & FULL S.E. NOTED ON CONSTR CENTERLINE.

* SEE PLAN SHEETS.

REQUIRED PAVEMENT:

- Ⓐ ASPHALTIC CONCRETE 12.5 mm SUPERPAVE, 165 lb/yd² MIX DESIGN LEVEL B
- Ⓑ ASPHALTIC CONCRETE .19 mm SUPERPAVE, 220 lb/yd² MIX DESIGN LEVEL B
- Ⓒ ASPHALTIC CONCRETE 25 mm SUPERPAVE, 330 lb/yd² MIX DESIGN LEVEL A
- Ⓓ ASPHALTIC CONCRETE LEVELING, AS REQ'D
- Ⓔ GRADED AGGREGATE BASE 16 INCHES

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REVISION DATES

NO.	DATE	DESCRIPTION

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

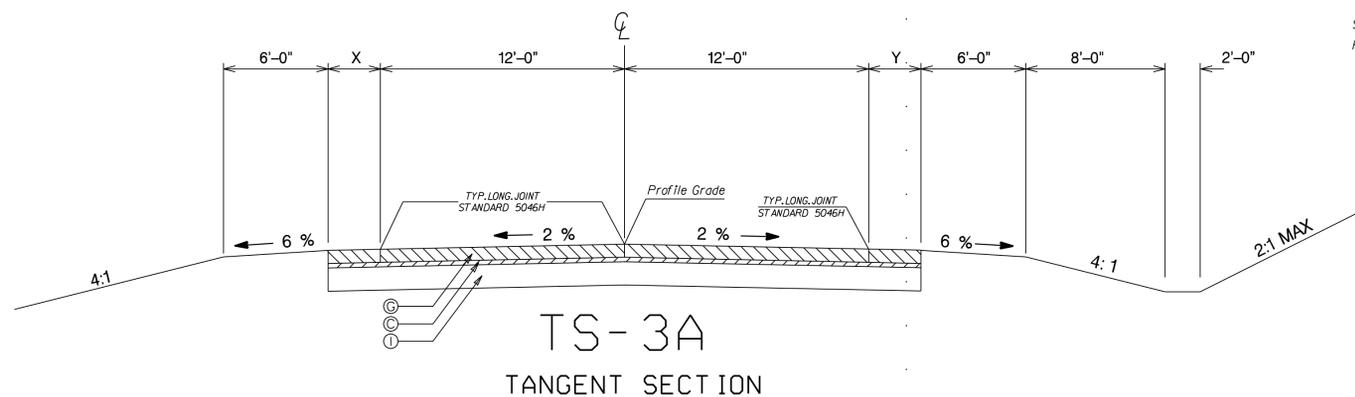
OFFICE:

TYPICAL SECTIONS

S.R. 100 Spur Haralson Co.

DRAWING No.
5-02

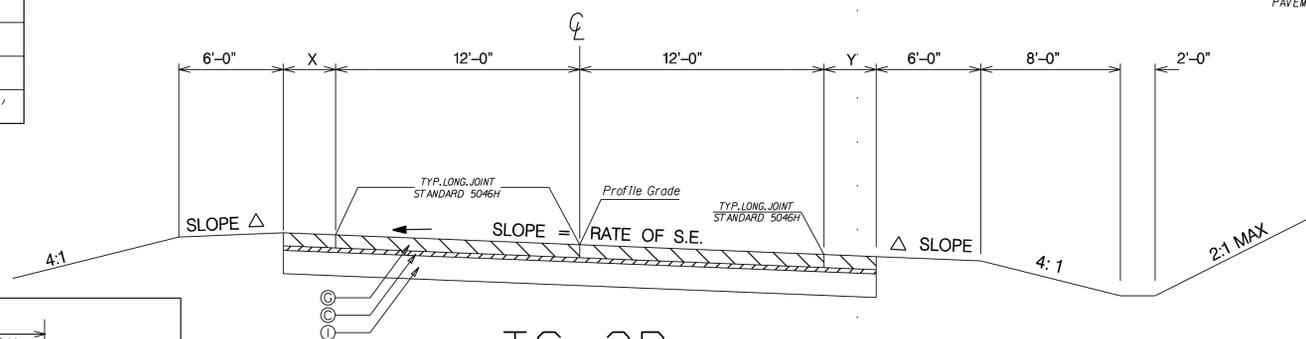
PEQUANOC DRIVE



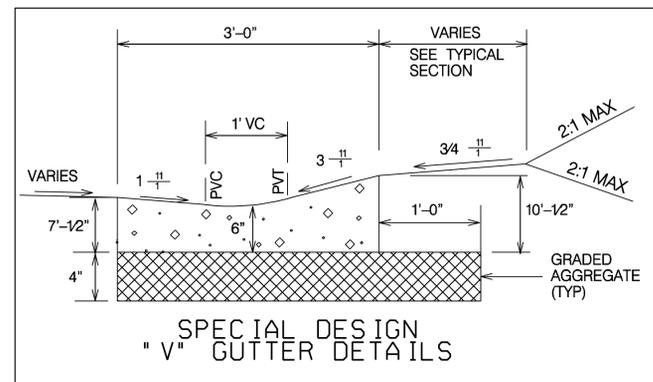
TS-3A
TANGENT SECTION

- PEQUANOC DRIVE
STA 10+00± TO 20+44.95±

SLOPE CONTROLS		
SLOPE	CUT	FILL
4:1	—	0-10'
2:1	ALL	OVER 10'



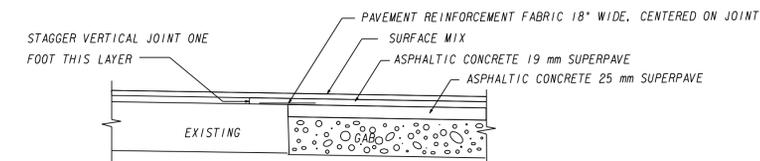
TS-3B
SUPERELEVATED SECTION



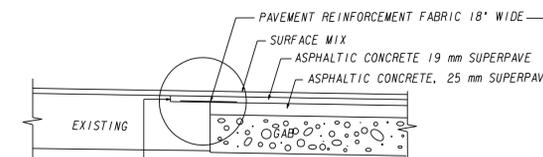
REQUIRED PAVEMENT:

- Ⓐ ASPHALTIC CONCRETE 12.5 mm SUPERPAVE, 165 lb/yd² MIX DESIGN LEVEL B
- Ⓑ ASPHALTIC CONCRETE 19 mm SUPERPAVE, 220 lb/yd² MIX DESIGN LEVEL B
- Ⓒ ASPHALTIC CONCRETE 19 mm SUPERPAVE, 330 lb/yd² MIX DESIGN LEVEL A
- Ⓓ ASPHALTIC CONCRETE 25 mm SUPERPAVE, 330 lb/yd² MIX DESIGN LEVEL A
- Ⓔ PLAIN PORTLAND CEMENT CONCRETE 9 INCHES MIX DESIGN LEVEL A
- Ⓚ GRADED AGGREGATE BASE 6 IN
- Ⓛ GRADED AGGREGATE BASE 16 INCHES

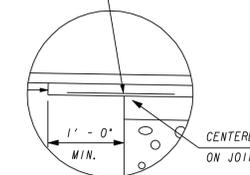
TYPICAL SECTION DETAIL TO BE USED WHEN EXISTING PAVEMENT IS TO BE RESURFACED WITH TWO INCHES OR MORE OF ASPHALTIC CONCRETE



TYPICAL SECTION DETAIL TO BE USED WHEN EXISTING PAVEMENT IS TO BE RESURFACED WITH LESS THAN TWO INCHES OF ASPHALTIC CONCRETE

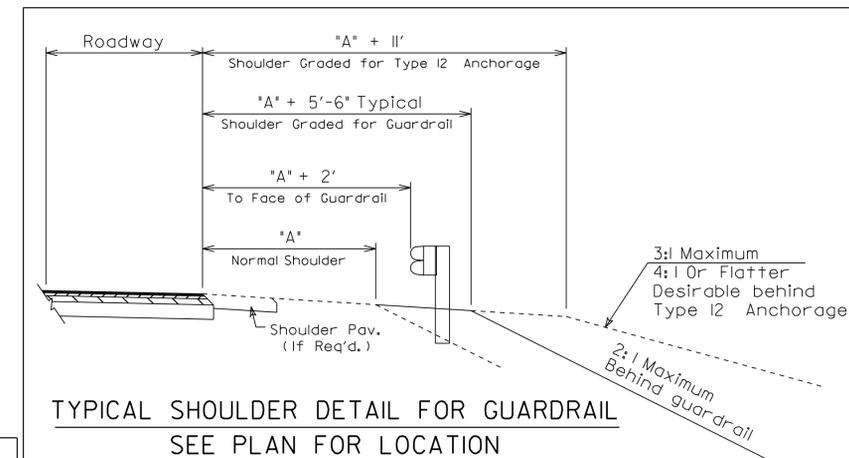


IF EXISTING LANE ONE FOOT WIDE TO DEPTH OF ADJOINING LAYER TO BE PLACED. COST OF MILLING FOR THIS WORK TO BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT REINFORCING FABRIC.



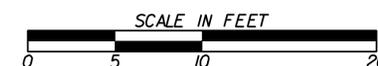
SLOPE Δ: SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS.

NOTE: FOR METHOD OF SUPERELEVATION SEE CONSTR PLAN & PROFILE SHEETS—CURVE DATA. LOCATIONS OF NORMAL CROWN & FULL S.E. NOTED ON CONSTR CENTERLINE.



ROAD NAME	X FEET	Y FEET
PEQUANOC DRIVE	0 - 21.24	0 - 15.32

GEORGIA
DEPARTMENT
OF
TRANSPORTATION



REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:
TYPICAL SECTIONS

S.R. 100 Spur Haralson Co.

DRAWING No.
5-03

SUMMARY OF QUANTITIES

SURFACING QUANTITIES							
ITEMS	UNIT	MAINLINE	MAINLINE SHOULDERS	SIDE ROADS	DRIVEWAYS	GROOVING CONCRETE	TOTAL
RECYCLED ASPH CONC 12.5mm SUPERPAVE GP 2 ONLY, INCL BITUM MAT'L & H LIME	TONS	---	251	2050	185	---	2486
RECYCLED ASPH CONC 19mm SUPERPAVE GP 1 OR 2, INCL BITUM MAT'L & H LIME	TONS	3034	304	5000	250	---	8588
RECYCLED ASPH CONC 25mm SUPERPAVE GP 1 OR 2, INCL BITUM MAT'L & H LIME	TONS	---	---	3675	---	---	3675
RECYCLED ASPH CONC LEVELING, INCL BITUM MAT'L & H LIME	TONS	---	---	2200	---	---	2200
RECYCLED ASPH CONC PATCHING, INCL BITUM MAT'L & H LIME (AS DIRECTED BY THE ENGINEER)	TONS	---	---	600	---	---	600
PLAIN PC CONC PVMT, CL 1 CONC, 9 IN THK	SO YD	18390	3690	12993	---	35073	35073
GRADED AGGR BASE CRS, INCL MAT'L	TONS	19425	2085	29050	800	---	51360
BITUMINOUS TACK COAT	GAL	---	182	2307	140	---	2629

TRAFFIC CONTROL	
LUMP SUM	STP-0692(23)

UNCLASSIFIED EXCAVATION	
TOTAL (CU YDS)	667000

FIELD ENGINEER'S OFFICE - TYPE 3	
TOTAL	1 EACH

CLEARING AND GRUBBING	
STP-0692(23)	LUMP SUM

AGGREGATE SURFACE COURSE	
<small>AS DIRECTED BY THE ENGINEER</small>	
TOTAL	1000 TONS

GR AGGR BASE CRS, INCL MATL	
<small>(FOR RAILROAD DETOUR & RECONSTRUCTION)</small>	
TOTAL	8200 TONS

PVMT REINFORCING FABRIC STRIPS, TP 2, INCL BITUM BINDER	
TOTAL (LF)	4650

CONCRETE MEDIAN, 6 IN	
TOTAL (SQ YD)	475

TEMPORARY STORM DRAIN PIPE							
<small>(TEMPORARY STORM DRAIN PIPE ITEMS SHOWN BELOW ARE PAID AS PERMANENT STORM DRAIN PIPE ITEMS)</small>							
STR. No.	STATION <small>(SEE STAGING PLANS)</small>	PIPE DIAMETER			HEIGHT OF FILL	DITCH DROP INLET WITH SAFETY GRATE	FLARED END SECTION GA STD 1120
		18 In	24 In	30 In			
		LF	LF	LF	LF	EA	QTY SIZE
1	OFF DETOUR No. 1	91			7.5		2 18 In
2	22+00 GOLF COURSE RD DETOUR	92			9.1		2 18 In
3	27+37 GOLF COURSE RD DETOUR	113			10.1		2 18 In
4	35+91 GOLF COURSE RD DETOUR		225		7.4		2 24 In
5	10+45 STOFFEL ROAD			133	14.6		2 30 In
6	18+50 RAILROAD DETOUR		53		5.5	1	2 24 In
7	23+34 RAILROAD DETOUR	50			5.5	1	2 18 In
8	32+38 MAINLINE	67			3.0		2 18 In
TOTALS (H-1-10)		413	278	133	38	2	10 18 In
(H-10-15)					24.7		4 24 In
(H-15-20)							2 30 In

NOTE:
 TEMPORARY PIPE MAY BE SMOOTH LINED CORRUGATED POLYETHYLENE, CORRUGATED METAL OR CONCRETE.
 ALL TEMPORARY DRAINAGE STRUCTURES NOT TO BE INCLUDED IN THE FINAL WORK SHALL BE REMOVED.
 THE TEMPORARY SMOOTH LINED CORRUGATED POLYETHYLENE AND CORRUGATED METAL PIPE AND CONCRETE PIPE SHALL BE REMOVED.
 THE COSTS OF REMOVING TEMPORARY PIPES AND STRUCTURES SHALL BE INCLUDED IN THE OVERALL BID PRICE SUBMITTED.

CONC VALLEY GUTTER, 6 IN			
LOCATION	STA TO STA	SIDE	LIN FT
GOLF COURSE RD	13+50 - 15+68	RT	220
US 78/ SR 8	17+58 - 20+04	RT	275
US 78/ SR 8	25+19 - 29+08	RT	391
TOTAL			886

CHANGEABLE MESSAGE SIGN, PORTABLE TYPE 3	
TOTAL (EACH)	2

REMOVE WINGWALLS & PARAPETS	
STATION	QTY
STA 21+08.00 LT, US 78	LUMP
STA 19+87.83 RT, US 78	LUMP
STA 24+74.00 LT, US 78	LUMP
STA 25+01.59 LT, US 78	LUMP
TOTAL	LUMP SUM

PRECAST CONCRETE MEDIAN BARRIER METHOD 3	
TOTAL (LF)	2500

FIELD FENCE WOVEN WIRE <small>(SEE PLANS FOR LOCATION)</small>	
TOTAL (LF)	7755

GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

REVISION DATES	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION
	OFFICE:
	SUMMARY OF QUANTITIES
	S. R. 100 Spur Haralson Co.
	DRAWING No. 6-01

SUMMARY OF QUANTITIES

AREAS	GRASSING					
	GRASSING ACRES	AGRIC. LIME TON	LIQUID LIME GALLON	FERTILIZERS		MULCH TON
				MIXED GRADE TON	NITROGEN CONTENT LB	
PERMANENT	35	100	80	26	1800	87
TEMPORARY	20	----	----	6	----	44
DISTURBED	----	----	----	----	----	360
TOTAL	55	100	80	32	1800	540

GUARDRAIL QUANTITIES				
GA STDS 4010, 4011A, 4012C, 4012D, 4040, 4052, 4270				
LOCATION/SIDE	"T" BEAM LIN FT	"W" BEAM LIN FT	ANCHORAGES	
			GA STD 4012-D TP 1	GA STD 4040 TP 12
16+50- 21+88 LT		538	1	
18+00- 22+22 RT		422		1
24+74- 24+95 LT	21			
25+07- 25+28 RT	21			
21+88- 22+09 LT	21			
22+22- 22+43 RT	21			
24+95- 26+14 LT		119		1
25+28- 33+00 RT		772	1	
EXIST SR 100				
15+81- 20+50 LT		469	1	1
STOFFEL RD				
10+93- 12+50 LT		157	1	1
ALABAMA ST				
NORTH OF RR BRIDGE	24			
SOUTH OF RR BRIDGE	24			
ORIG GOLF COURSE RD				
24+75 +/-	24			
US 78/ SR 8				
15+85- 17+37 RT		152	1	1
17+37- 17+58 RT	21			
23+00- 27+37 LT		437	1	1
28+00- 29+97 LT		197		1
24+53- 25+94 RT		141		1
25+94- 26+15+- RT	21			
25+19- 29+40 RT	21		1	
TOTALS	219	3404	7	8

UNDDR PIPE INCL DRAINAGE AGGR. 8 IN	
LOCATION	QTY
SR 100 SPUR (SEE CONSTR. PLANS & DRAINAGE X-SECT)	1200
AS DIRECTED BY THE ENGINEER	1000
TOTAL	2200

LIVE WILLOW CUTTINGS & PLANTINGS	
TOTAL (EACH)	85

CONCRETE RIGHT-OF-WAY MARKERS GA STD 9003	
TOTAL (EACH)	122

CONCRETE SIDE BARRIER			
STATION	TYPE	UNIT	LENGTH
26+22 - 28+40	7C	LF	220
18+00 - 19+80	7C	LF	180
TOTAL			400

BARRIER FENCE (ORANGE) 4 FT	
TOTAL	1000 LF

IMPERFECT TRENCH BACKFILL (SEE DRAINAGE CROSS SECTIONS FOR LOCATION)	
TOTAL	35 CU YDS

CONSTRUCT AND REMOVE SEDIMENT BASIN TP 1	
LOCATION	EACH
STA 22+34 SR 100 SPUR, RT	1
STA 25+14 SR 100 SPUR, LT	1
STA 23+00 US 78, RT	1
TOTAL	3

GEORGIA
DEPARTMENT
OF
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

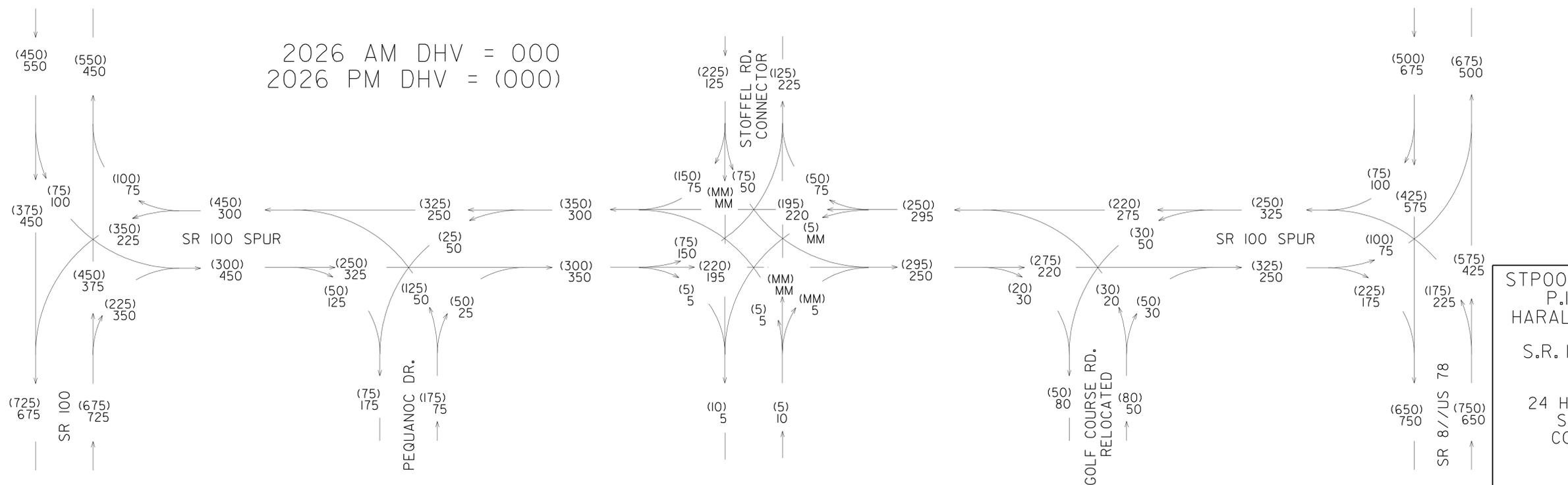
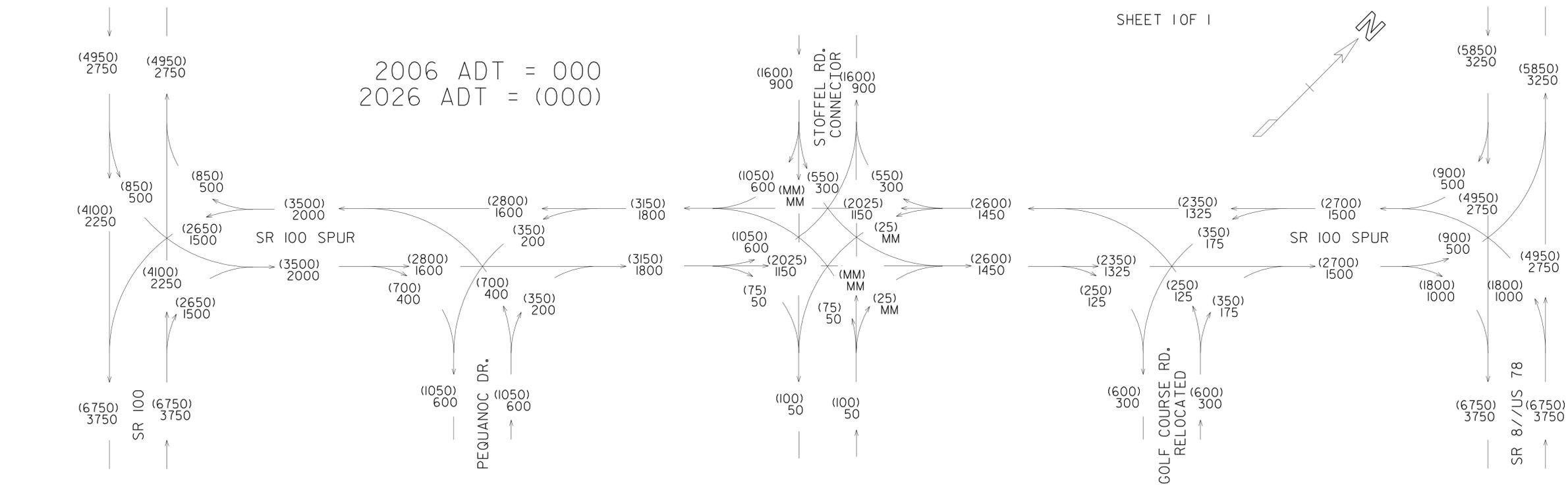
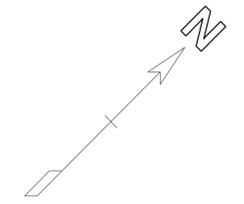
OFFICE:

SUMMARY OF QUANTITIES

S. R. 100 Spur Haralson Co.

DRAWING No.
6-02

SHEET 1 OF 1



STP00-0123-00(456)
P.I.# 123456
HARALSON COUNTY
S.R. 100 SPUR
T = 10%
24 HR. T = 15%
S.U. = 6%
COMB. = 9%

RGL
3/01

GEORGIA
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REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
TRAFFIC DIAGRAM
S.R. 100 Spur Haralson Co.

DRAWING No.
10-01



KC1
 PI Sta = 23+88.38
 PI North = 1359566.12
 PI East = 1957724.07
 Delta = 31° 13' 29.67"
 D = 5' 43' 46.4808000"
 T = 279.44
 L = 544.98
 R = 1000.00
 E = 38.31
 e = 5.5 %

KC2
 PI Sta = 35+09.38
 PI North = 1360413.79
 PI East = 1958478.70
 Delta = 29° 36' 31.8729684"
 D = 2' 51' 53.2404000"
 T = 528.59
 L = 1033.54
 R = 2000.00
 E = 68.67
 e = 4.5 %

KC4
 PI Sta = 26+32.04
 PI North = 1359751.86
 PI East = 1957072.28
 Delta = 11° 05' 01.8995870"
 D = 2' 51' 53.2403999"
 T = 194.06
 L = 386.90
 R = 2000.00
 E = 9.39
 e = 3.5 %

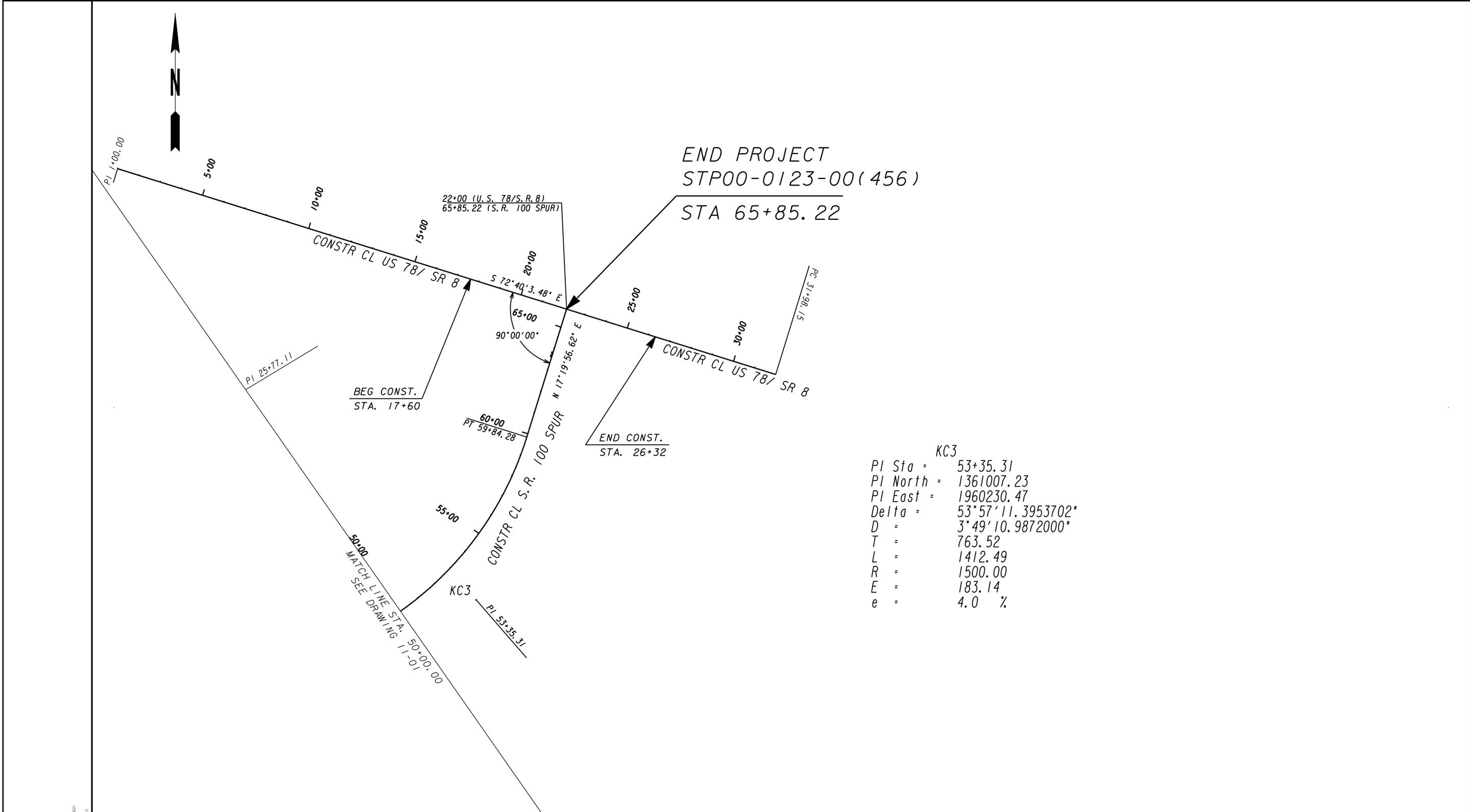
KC5
 PI Sta = 38+44.48
 PI North = 1358591.85
 PI East = 1957429.11
 Delta = 5° 41' 58.4547337"
 D = 2' 51' 53.2403998"
 T = 99.56
 L = 198.95
 R = 2000.00
 E = 2.48
 e = 3.5 %

KC6
 PI Sta = 17+19.09
 PI North = 1359247.23
 PI East = 1957979.85
 Delta = 39° 21' 41.2695351"
 D = 9' 32' 57.4680000"
 T = 214.60
 L = 412.19
 R = 600.00
 E = 37.22
 e = 2.5 %

BEG. PROJECT
 STP00-0123-00(456)
 STA 10+00



<p>3/1/2007 GPLN</p>	<p>GEORGIA DEPARTMENT OF TRANSPORTATION</p>	<p>SCALE IN FEET 0 200 400 800</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><th colspan="3">REVISION DATES</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	REVISION DATES															<p>STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: ROAD & AIRPORT DESIGN CONSTRUCTION LAYOUT S.R. 100 Spur Haralson Co.</p>	<p>DRAWING No. 11-01</p>
REVISION DATES																				



KC3
 PI Sta = 53+35.31
 PI North = 1361007.23
 PI East = 1960230.47
 Delta = 53°57'11.3953702"
 D = 3°49'10.9872000"
 T = 763.52
 L = 1412.49
 R = 1500.00
 E = 183.14
 e = 4.0 %

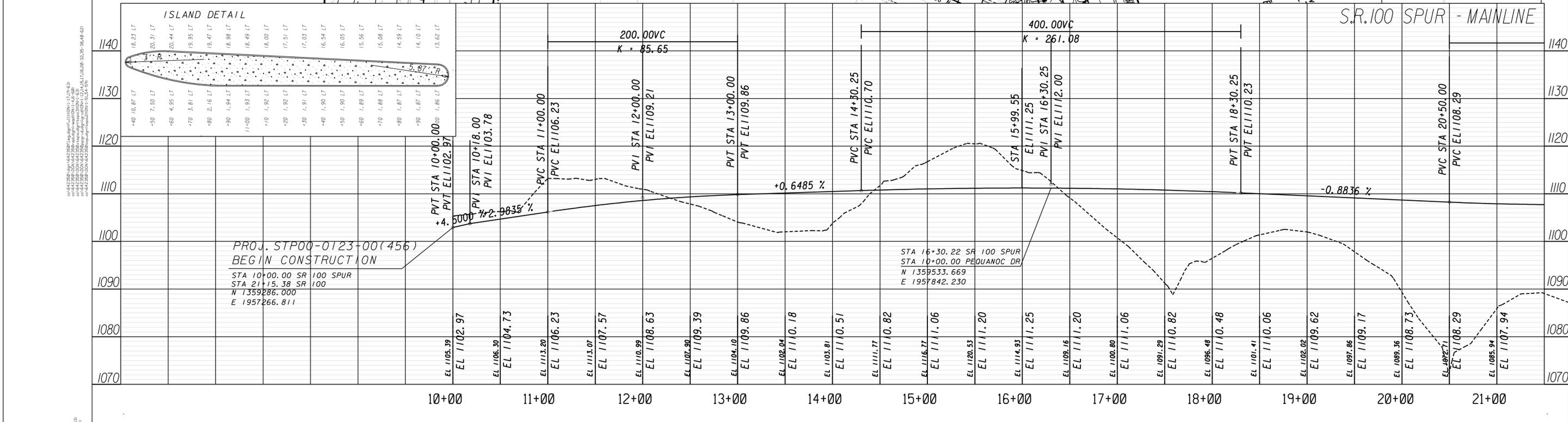
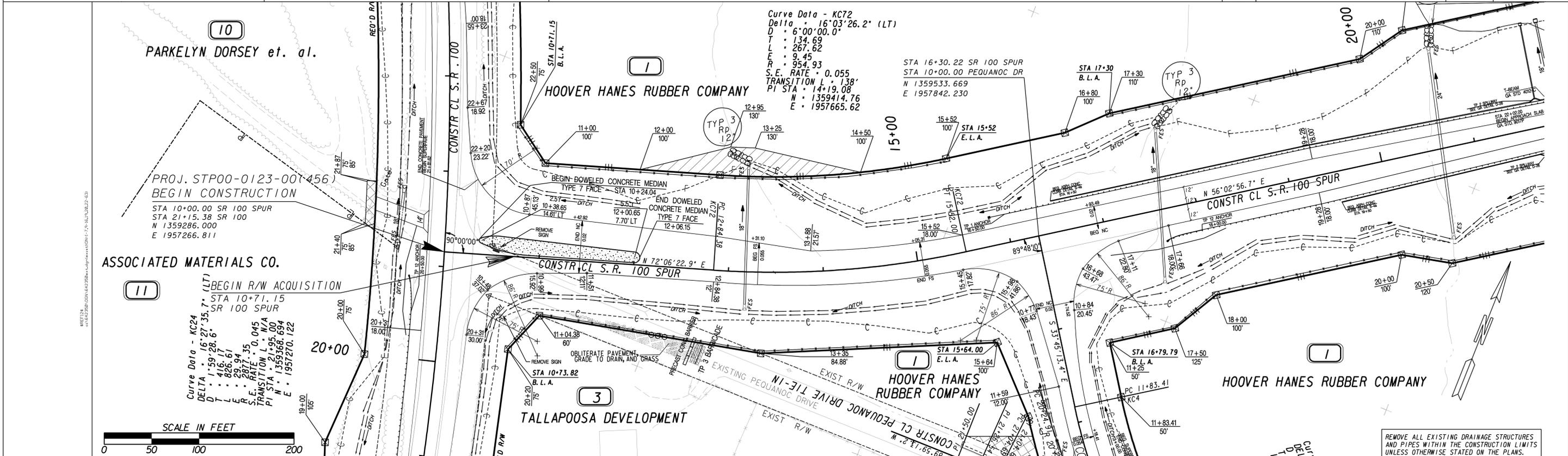
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GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

SCALE IN FEET
 0 200 400 800

REVISION DATES		

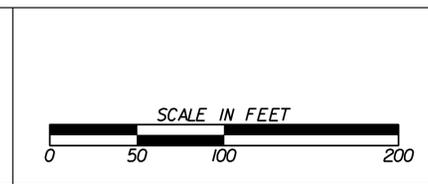
STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: ROAD & AIRPORT DESIGN
CONSTRUCTION LAYOUT
 S.R. 100 Spur Haralson Co. DRAWING No. 11-02



PROPERTY AND EXISTING R/W LINE -----
 REQUIRED R/W LINE -----
 CONSTRUCTION LIMITS -----
 EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES [Hatched Box]
 EASEMENT FOR CONSTR OF SLOPES [Cross-hatched Box]
 EASEMENT FOR CONSTR OF DRIVES [Cross-hatched Box]

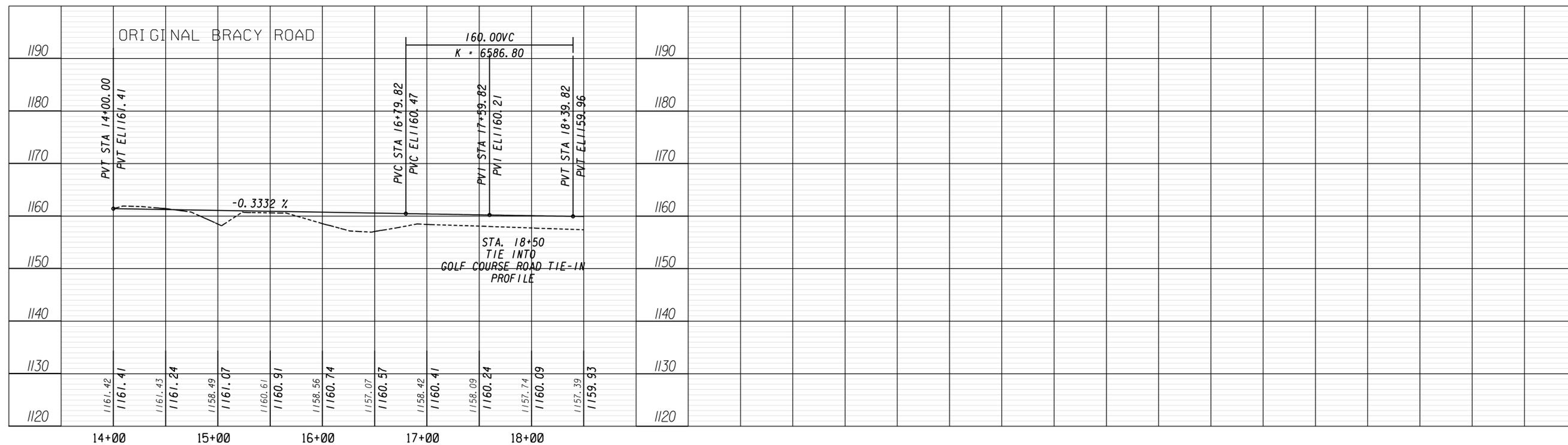
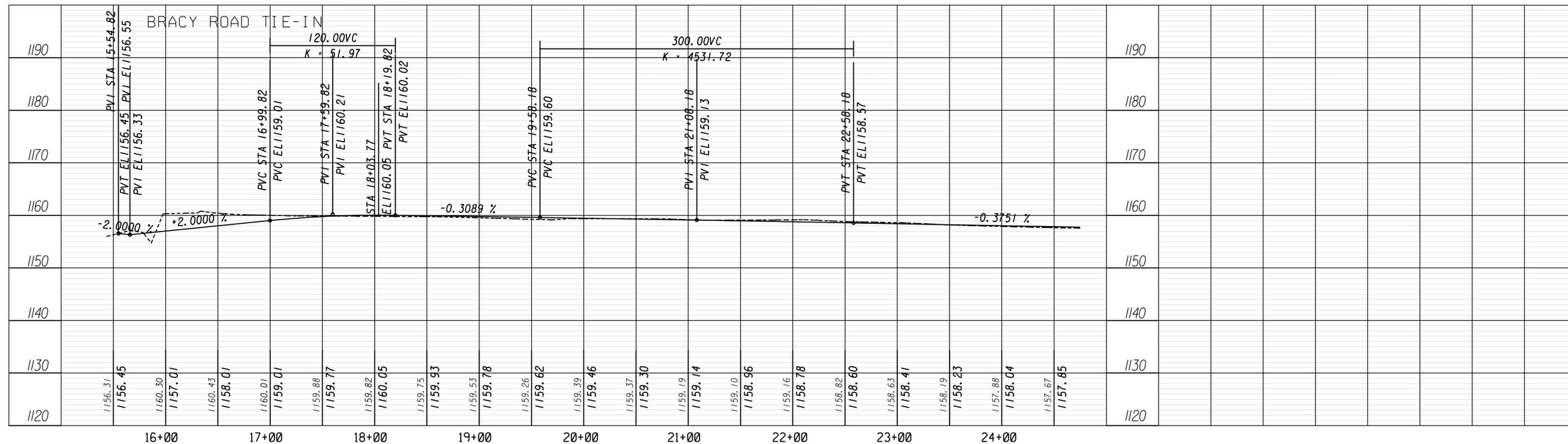
BEGIN LIMIT OF ACCESS.....BLA
 END LIMIT OF ACCESS.....ELA
 LIMIT OF ACCESS -----
 REQ'D R/W & LIMIT OF ACCESS [Double Line]

GEORGIA
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 OF
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REVISION DATES	

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
 MAINLINE PROFILE
 S.R. 100 Spur Haralson Co. DRAWING No. 15-01



PROPERTY AND EXISTING R/W LINE -----E-----
 REQUIRED R/W LINE -----F-----
 CONSTRUCTION LIMITS -----C-----
 EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES [Hatched Box]
 EASEMENT FOR CONSTR OF SLOPES [Diagonal Lines Box]
 EASEMENT FOR CONSTR OF DRIVES [Cross-hatched Box]

BEGIN LIMIT OF ACCESS.....BLA
 END LIMIT OF ACCESS.....ELA
 LIMIT OF ACCESS -----O-----
 REQ'D R/W & LIMIT OF ACCESS [Double Line]

GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

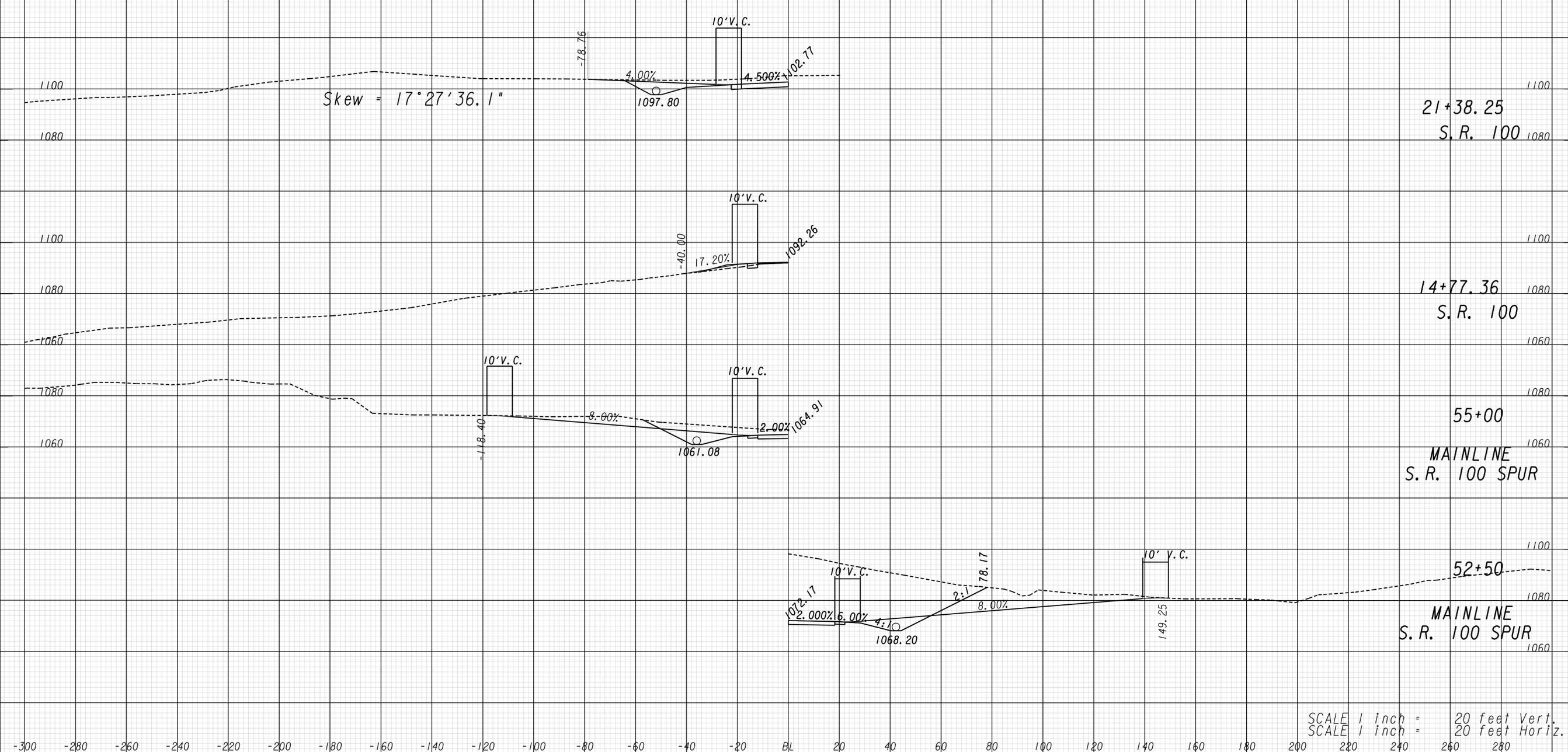
REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION

OFFICE: CROSSROAD PROFILE

Project Identification

DRAWING No.
16-01



-300 -280 -260 -240 -220 -200 -180 -160 -140 -120 -100 -80 -60 -40 -20 BL 20 40 60 80 100 120 140 160 180 200 220 240 260 280

SCALE 1 inch = 20 feet Vert.
 SCALE 1 inch = 20 feet Horiz.

GEORGIA
 DEPARTMENT
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 TRANSPORTATION

REVISION	DATE

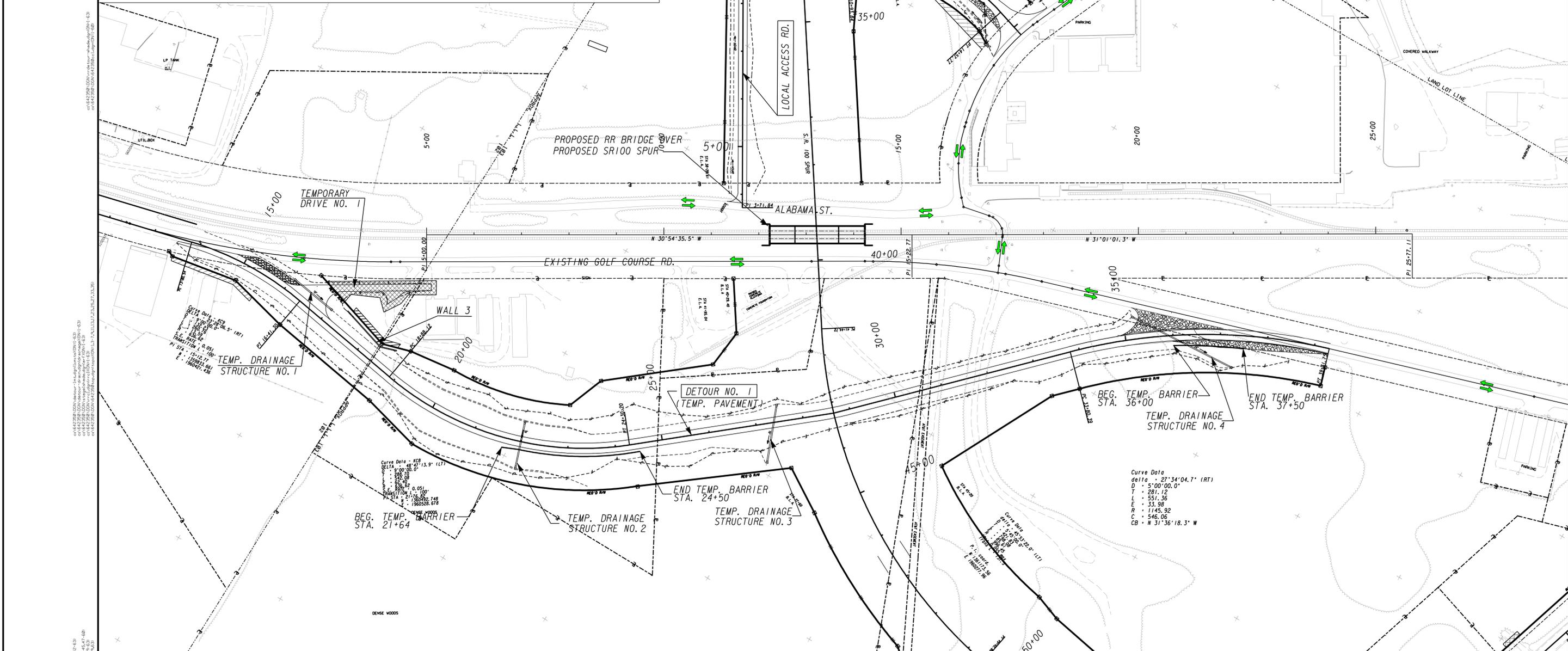
STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
 DRIVEWAY PROFILES
 Project Identification

DRAWING No.
17-01

SEQUENCE OF OPERATIONS - STAGE 1

1. MAINTAIN TWO-WAY TRAFFIC \rightleftarrows ON EXISTING S.R. 100, PEQUANOC DRIVE, STOFFEL RD., ALABAMA STREET, GOLF COURSE ROAD, AND U.S. 78.
2. INSTALL & MAINTAIN CONSTRUCTION EXITS. 
3. CONSTRUCT TEMPORARY DRAINAGE STRUCTURES NO. 1, 2, 3, 4, & 5.
4. CONSTRUCT TEMPORARY DETOUR NO. 1 AND TEMPORARY DRIVE NO. 1 (SEE PLAN & PROFILE AND CROSS SECTIONS FOR DETOUR NO. 1) CONSTRUCT STOFFEL ROAD TIE-IN AND LOCAL ACCESS ROAD TO FINISHED GRADE (SEE PLAN AND PROFILE AND EARTHWORK CROSS SECTIONS FOR STOFFEL ROAD TIE-IN AND LOCAL ACCESS ROAD).

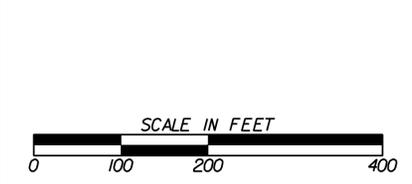
 CONSTRUCTION



PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS.....BLA
 END LIMIT OF ACCESS.....ELA
 LIMIT OF ACCESS
 REQ'D R/W & LIMIT OF ACCESS

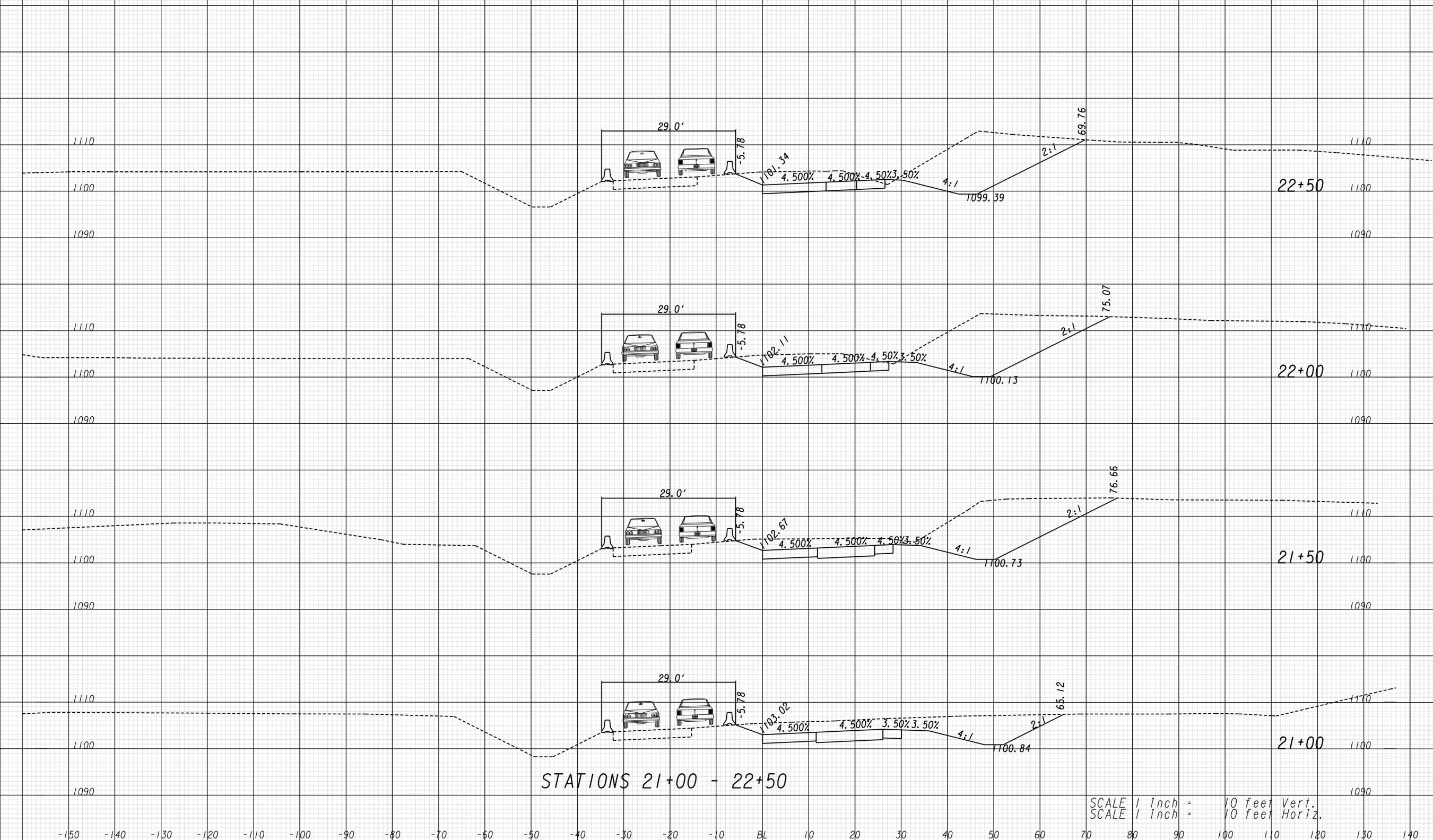
GEORGIA
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REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
CONSTRUCTION STAGING PLAN
 Stage 1 - Railroad Overpass
 Constr. & Maint. of Traffic

DRAWING No. **19-07**



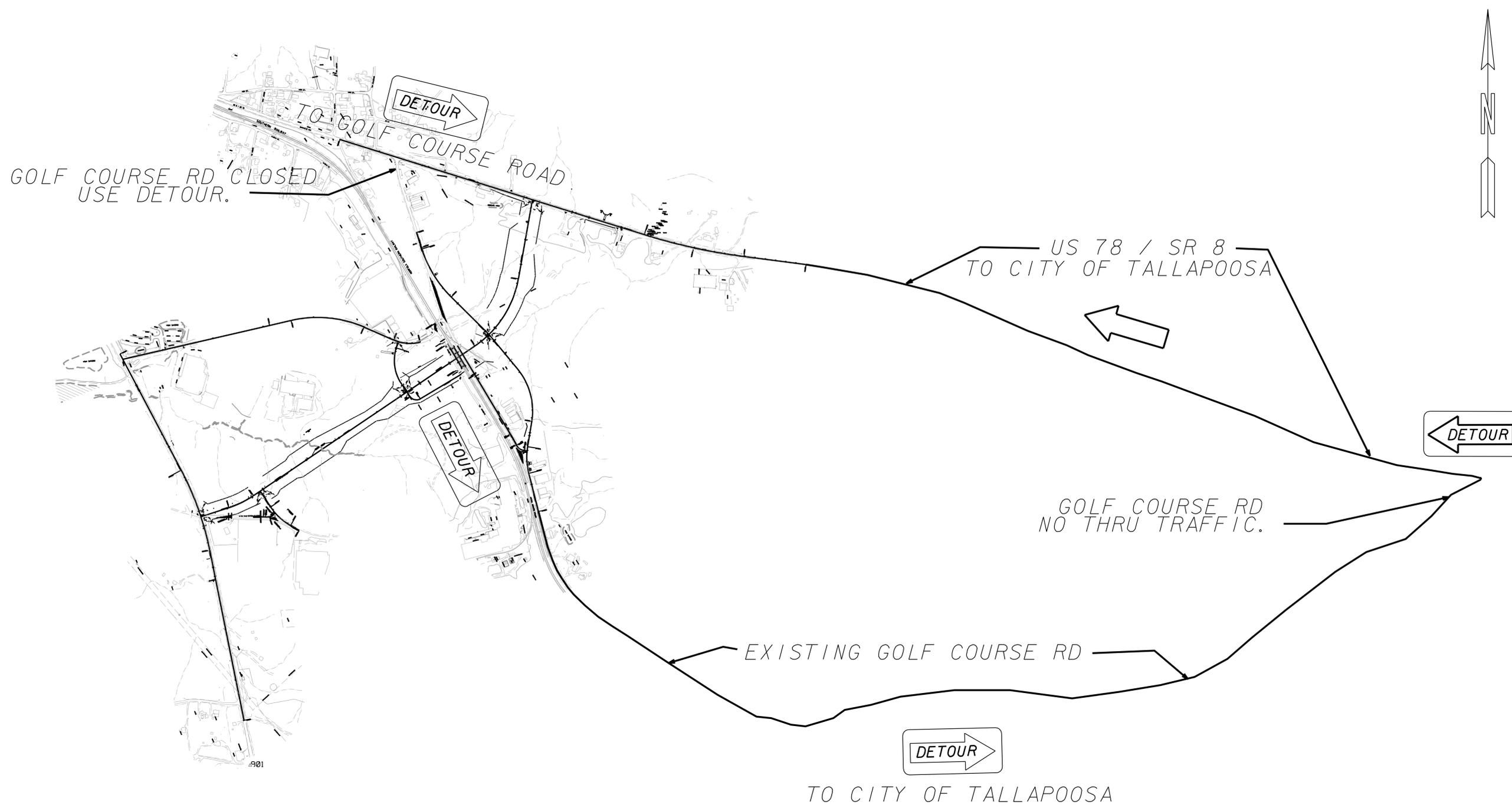
SCALE 1 inch = 10 feet Vert.
 SCALE 1 inch = 10 feet Horiz.

REVISION DATES	

GEORGIA
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 OF
 TRANSPORTATION

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
 CROSS SECTIONS
 CONSTRUCTION STAGING
 Stage 2 - S.R. 100 Spur

DRAWING No.
19-27



3/15/2007 GPU
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GEORGIA
DEPARTMENT
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REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE: **STAGING DETAILS**

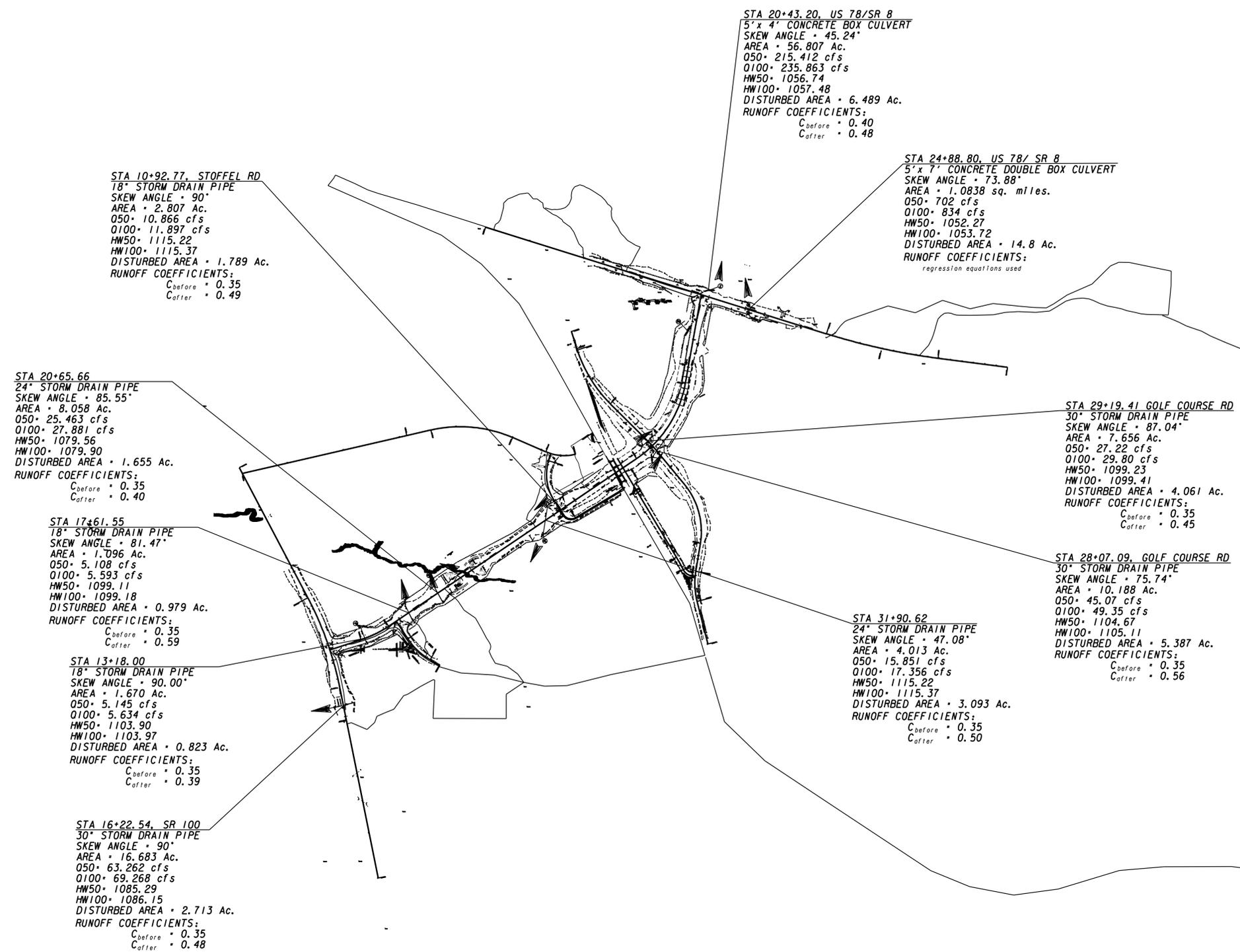
Detour Map - S.R. 100 Spur

DRAWING No.
20-01



RECEIVING WATERS FROM SR 100 SPUR
THAT DISTRIBUTE INTO GREENE CREEK
AND INTO HACKNEY BRANCH.

THIS PROJECT HAS A TOTAL AREA OF 47.36 ACRES
AND THE EXPECTED DISTURBED AREA IS 40.97 ACRES



STA 10+92.77, STOFFEL RD
18" STORM DRAIN PIPE
SKEW ANGLE = 90°
AREA = 2.807 Ac.
Q50 = 10.866 cfs
Q100 = 11.897 cfs
HW50 = 1115.22
HW100 = 1115.37
DISTURBED AREA = 1.789 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.49

STA 20+43.20, US 78/SR 8
5' x 4' CONCRETE BOX CULVERT
SKEW ANGLE = 45.24°
AREA = 56.807 Ac.
Q50 = 215.412 cfs
Q100 = 235.863 cfs
HW50 = 1056.74
HW100 = 1057.48
DISTURBED AREA = 6.489 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.40
C_{after} = 0.48

STA 24+88.80, US 78/ SR 8
5' x 7' CONCRETE DOUBLE BOX CULVERT
SKEW ANGLE = 73.88°
AREA = 1.0838 sq. miles.
Q50 = 702 cfs
Q100 = 834 cfs
HW50 = 1052.27
HW100 = 1053.72
DISTURBED AREA = 14.8 Ac.
RUNOFF COEFFICIENTS:
regression equations used

STA 20+65.66
24" STORM DRAIN PIPE
SKEW ANGLE = 85.55°
AREA = 8.058 Ac.
Q50 = 25.463 cfs
Q100 = 27.881 cfs
HW50 = 1079.56
HW100 = 1079.90
DISTURBED AREA = 1.655 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.40

STA 29+19.41, GOLF COURSE RD
30" STORM DRAIN PIPE
SKEW ANGLE = 87.04°
AREA = 7.656 Ac.
Q50 = 27.22 cfs
Q100 = 29.80 cfs
HW50 = 1099.23
HW100 = 1099.41
DISTURBED AREA = 4.061 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.45

STA 17+61.55
18" STORM DRAIN PIPE
SKEW ANGLE = 81.47°
AREA = 1.796 Ac.
Q50 = 5.108 cfs
Q100 = 5.593 cfs
HW50 = 1099.11
HW100 = 1099.18
DISTURBED AREA = 0.979 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.59

STA 28+07.09, GOLF COURSE RD
30" STORM DRAIN PIPE
SKEW ANGLE = 75.74°
AREA = 10.188 Ac.
Q50 = 45.07 cfs
Q100 = 49.35 cfs
HW50 = 1104.67
HW100 = 1105.11
DISTURBED AREA = 5.387 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.56

STA 13+18.00
18" STORM DRAIN PIPE
SKEW ANGLE = 90.00°
AREA = 1.670 Ac.
Q50 = 5.145 cfs
Q100 = 5.634 cfs
HW50 = 1103.90
HW100 = 1103.97
DISTURBED AREA = 0.823 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.39

STA 31+90.62
24" STORM DRAIN PIPE
SKEW ANGLE = 47.08°
AREA = 4.013 Ac.
Q50 = 15.851 cfs
Q100 = 17.356 cfs
HW50 = 1115.22
HW100 = 1115.37
DISTURBED AREA = 3.093 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.50

STA 16+22.54, SR 100
30" STORM DRAIN PIPE
SKEW ANGLE = 90°
AREA = 16.683 Ac.
Q50 = 63.262 cfs
Q100 = 69.268 cfs
HW50 = 1085.29
HW100 = 1086.15
DISTURBED AREA = 2.713 Ac.
RUNOFF COEFFICIENTS:
C_{before} = 0.35
C_{after} = 0.48

GEORGIA
DEPARTMENT
OF
TRANSPORTATION



REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

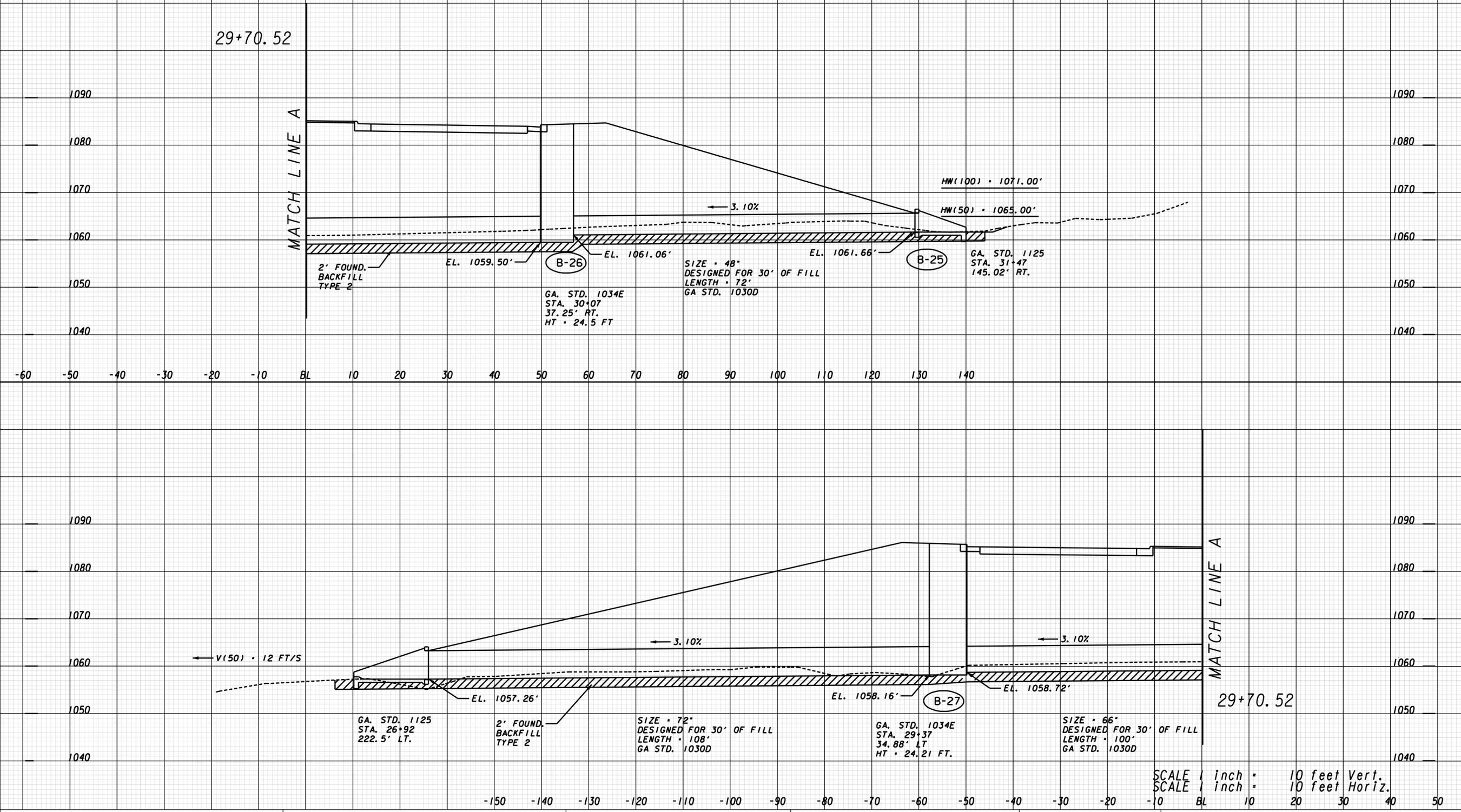
OFFICE:

DRAINAGE AREA MAP

S. R. 100 Spur Haralson Co.

DRAWING No.
21-01

3/15/2007
GPLN
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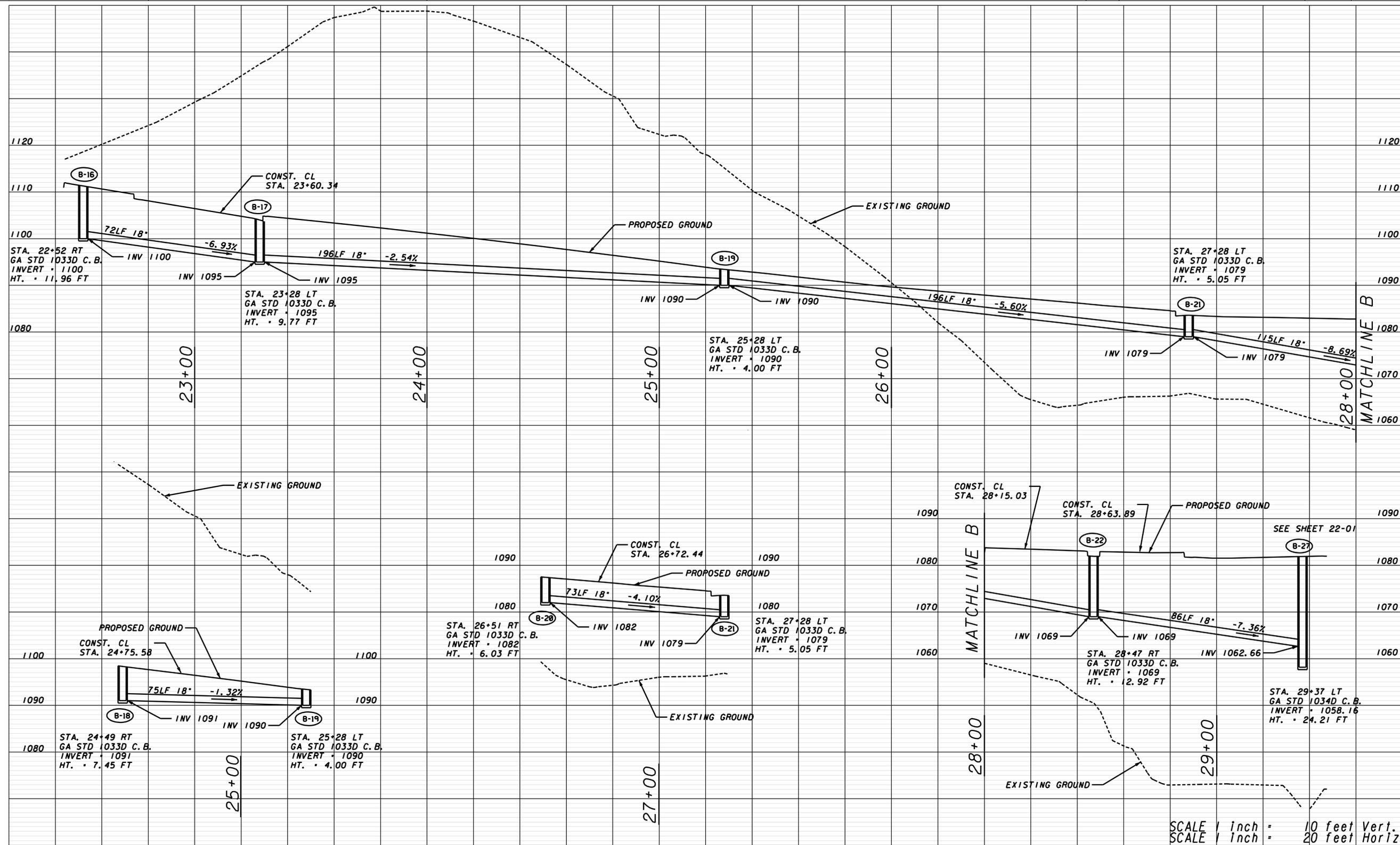
SCALE 1 inch = 10 feet Vert.
 SCALE 1 inch = 10 feet Horiz.

GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

REVISION DATES	

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
 CROSS SECTIONS
 SYSTEM "B"

DRAWING No.
22-01

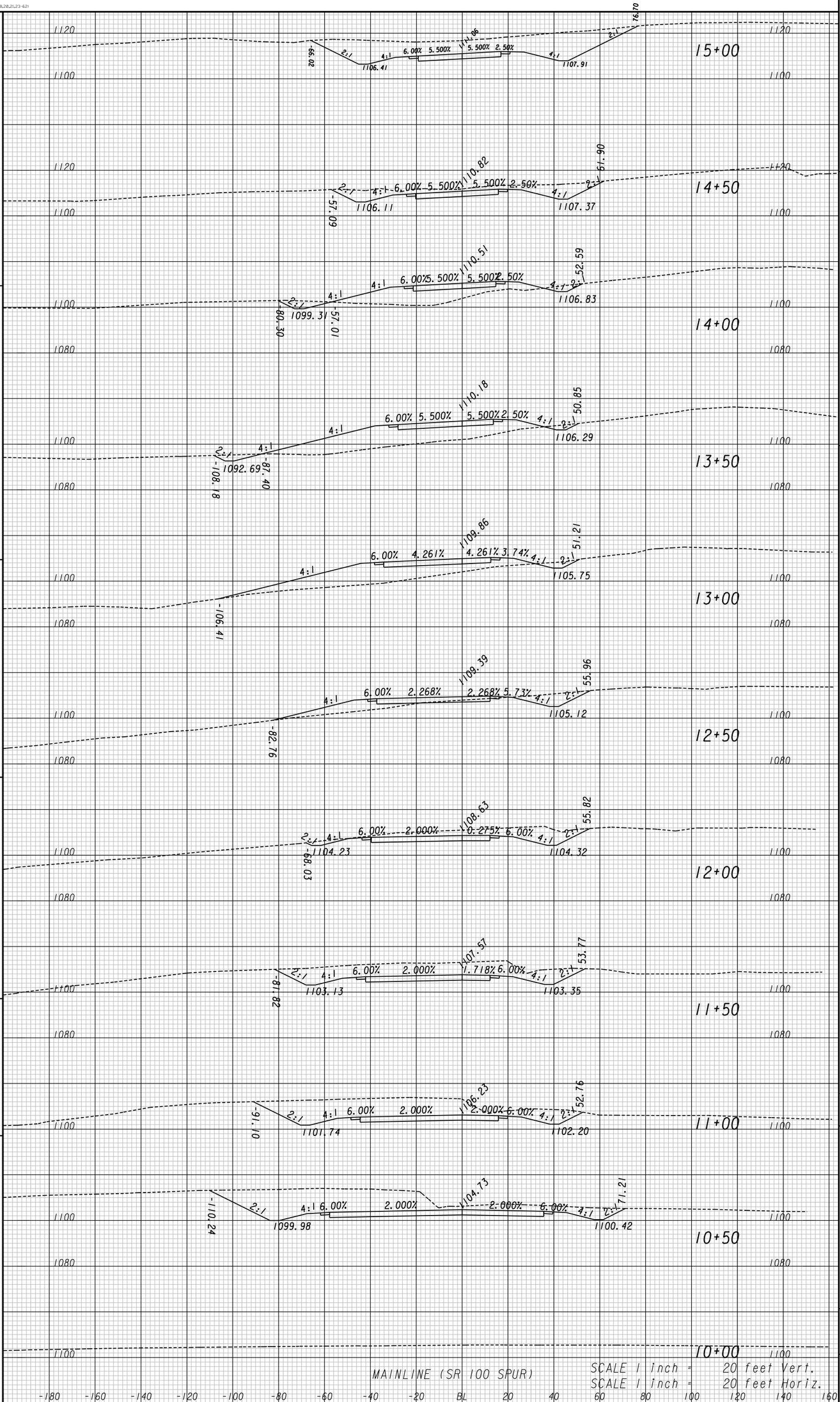


GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: DISTRICT 3 DESIGN
 DRAINAGE PROFILES
 SYSTEM "B"

DRAWING No.
 22-02



GEORGIA
DEPARTMENT
OF
TRANSPORTATION

REVISION DATES

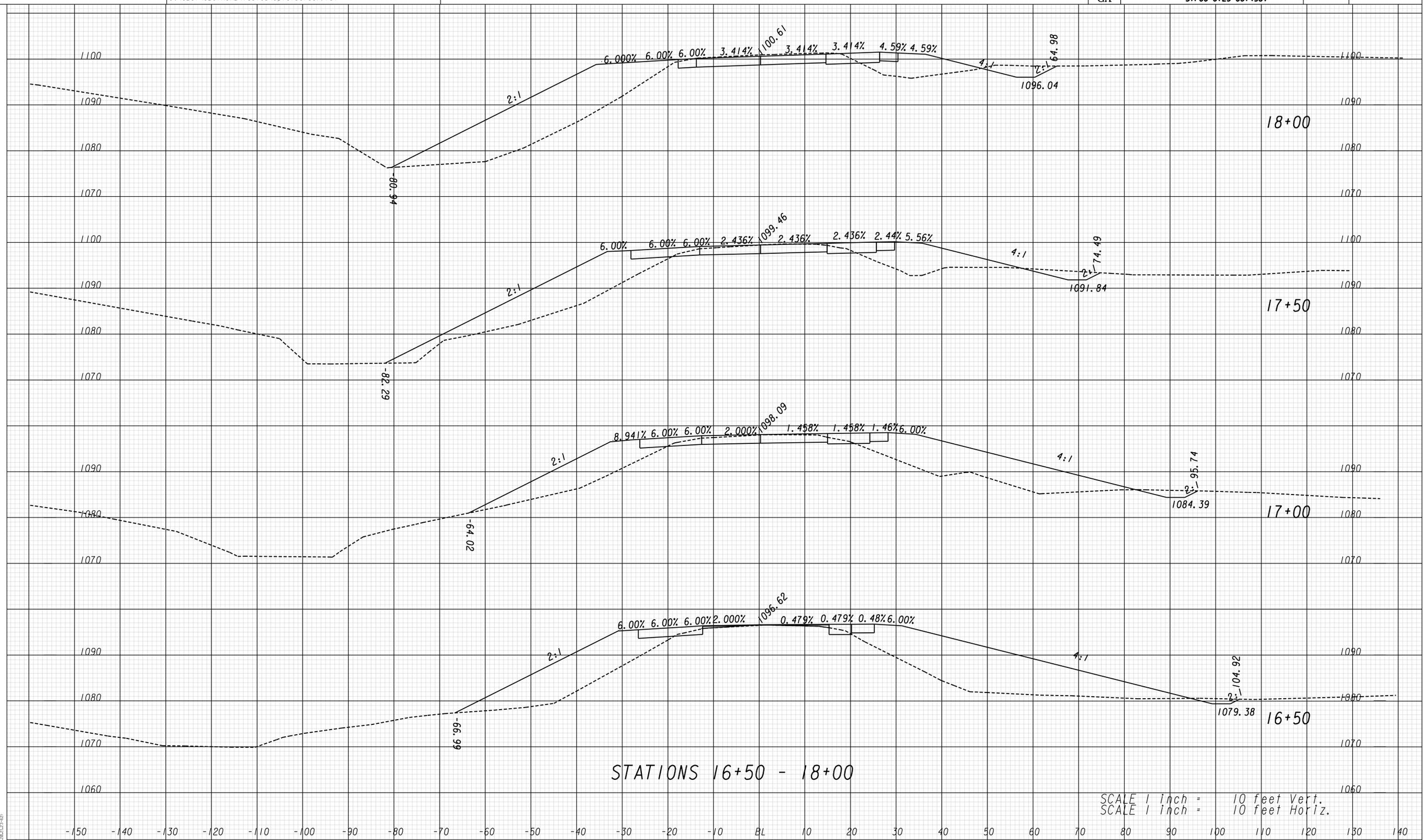
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

OFFICE: S.R. 100 Spur Hardison Co.

DRAWING NO. 23-01

MAINLINE (SR 100 SPUR) SCALE 1 inch = 20 feet Vert. SCALE 1 inch = 20 feet Horiz.



STATIONS 16+50 - 18+00

SCALE 1 inch = 10 feet Vert.
 SCALE 1 inch = 10 feet Horiz.

GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

REVISION DATES	

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
 CROSS SECTIONS

S. R. 100 Spur Haralson Co. **DRAWING No. 23-04**

UTILITY LINECODES

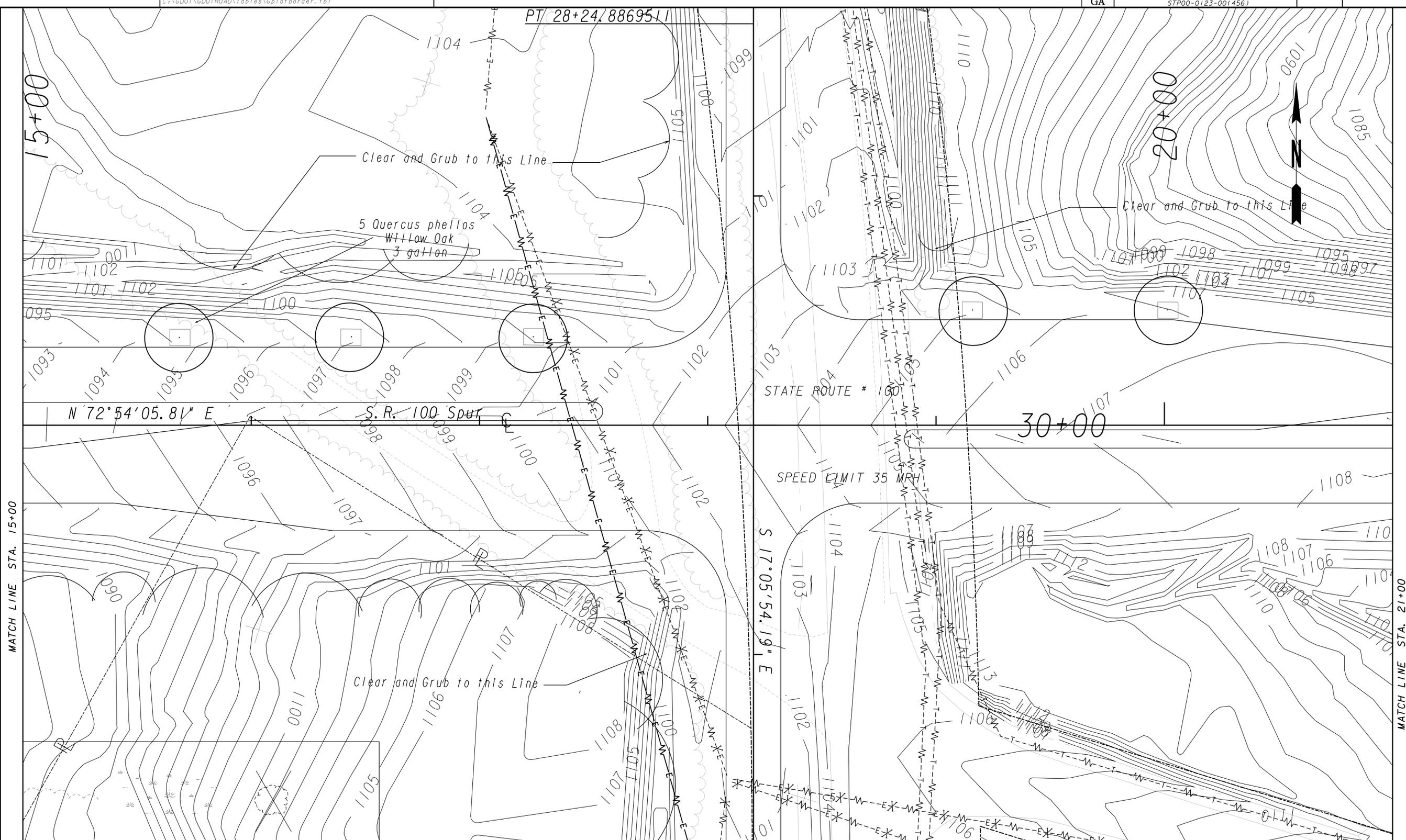
UTILITY SYMBOLS

	EXISTING	TO BE REMOVED	PROPOSED	TYPE OF UTILITY
OVERHEAD				ELECTRIC
				ELECTRIC/TELECOMMUNICATIONS
				ELECTRIC/CABLE TV
				ELECTRIC/TELECOMMUNICATIONS/CABLE TV
				GUY WIRE
				TELECOMMUNICATIONS
				TELECOMMUNICATIONS/CABLE TV
UNDERGROUND				ELECTRIC
				TELECOMMUNICATIONS
				CABLE TV
				WATER
				WATER FOR LABELED PIPE SIZES
				NON-POTABLE WATER
				NON-POTABLE WATER FOR LABELED PIPE SIZES
				STEAM
				STEAM FOR LABELED PIPE SIZES
				SANITARY SEWER WITH FLOW DIRECTION
				SANITARY SEWER WITH FLOW DIRECTION FOR LABELED PIPE SIZES
				SANITARY SEWER FORCE MAIN WITH FLOW DIRECTION
				GAS
				GAS FOR LABELED PIPE SIZES
				PETROLEUM
			PETROLEUM FOR LABELED PIPE SIZES	

EXISTING	PROPOSED	TEMPORARY	EXISTING	PROPOSED	TEMPORARY

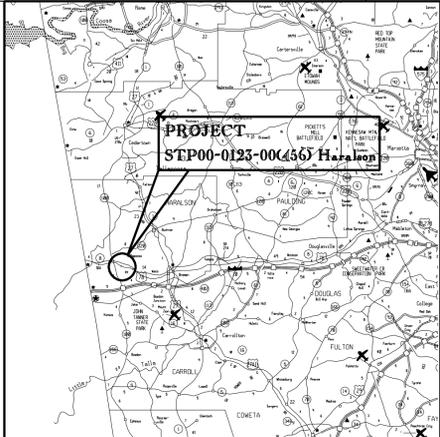
REVISION DATES		

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
 UTILITY PLANS
 LEGEND
 DRAWING No.
 24-



C:\123456\06N\1234561s02.dgn(0N+29, 45-49, 60-62)
 C:\123456\06N\1234561s02.dgn(0N+29, 45-49, 60-62)
 C:\123456\06N\1234561s02.dgn(0N+29, 45-49, 60-62)
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 C:\123456\06N\1234561s02.dgn(0N+29, 45-49, 60-62)

GEORGIA DEPARTMENT OF TRANSPORTATION	SCALE IN FEET 	REVISION DATES <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>									STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: LANDSCAPING PLANS S. R. 100 Spur Haralson Co.
3/1/2007 GPN			DRAWING No. 29-02								



LOCATION SKETCH

NOTE: THE CO-ORDINATES LISTED ARE WEST ZONE GRID CO-ORDINATES BASED ON THE GA. STATE PLANE CO-ORDINATE SYSTEM OF 1984. HORIZONTAL DATUM : NAD 1983/ HARN VERTICAL DATUM : NAVD 1988

DESIGN DATA:
 TRAFFIC A. D. T. : 4000 (2006)
 TRAFFIC A. D. T. : 7000 (2026)
 TRAFFIC D. H. V. : 450
 DIRECTIONAL DIST. :
 % TRUCKS:
 24 HR. TRUCKS %: 15%
 SPEED DESIGN: 45 mph

MIDPOINT COORDINATES:
 STA 33+50.00 SR 100 SPUR
 N 1360494.119
 E 1959268.790

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

RIGHT OF WAY OF PROPOSED S. R. 100 SPUR FEDERAL AID PROJECT

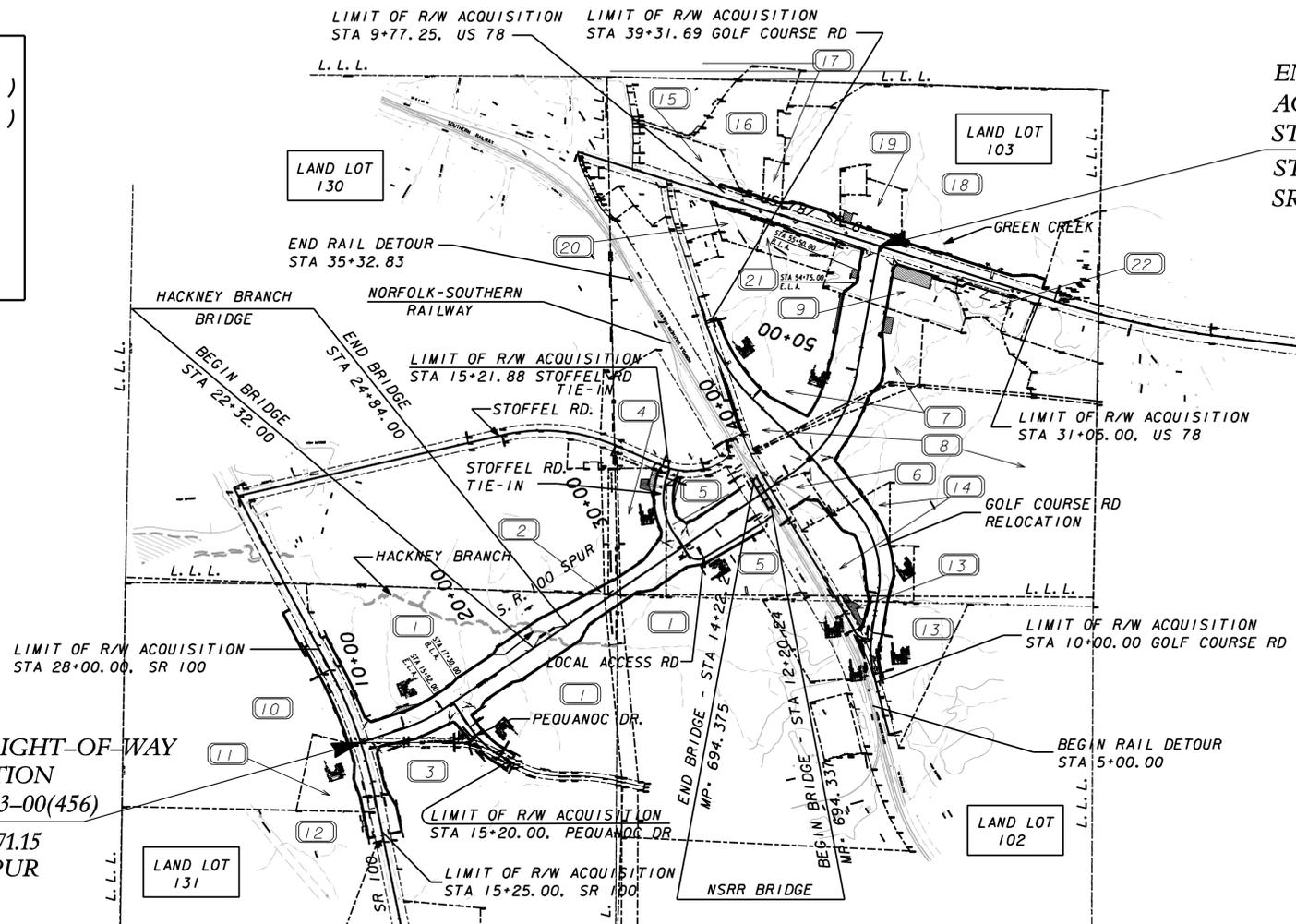
STP00-0123-00(456)

FEDERAL ROUTE No. : N/A
 STATE ROUTE No. : 100
 P. I. No. : 123456

CONVENTIONAL SIGNS

STATE OR COUNTY LINE	-----
CITY LIMIT LINE	-----
LAND LOT LINE	-----
PROPERTY LINE	-----
SURVEY OR BASE LINE	-----
RIGHT OF WAY LINE	-----
EXISTING	-----
REQUIRED	-----
LIMIT OF ACCESS	-----
ROAD R/W & LIMIT OF ACCESS	-----
R/W MARKERS	-----
FENCE	-----
RAILROAD	-----
POWER LINE	-----
TELEPHONE LINE	-----
POWER POLES	-----
TELEPHONE OR TELEGRAPH POLES	-----

NOTE :
 ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED, OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO " STATE HIGHWAY DEPARTMENT OF GEORGIA ", " STATE HIGHWAY DEPARTMENT ", " GEORGIA STATE HIGHWAY DEPARTMENT ", " HIGHWAY DEPARTMENT ", OR " DEPARTMENT " WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA MEAN, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.



END RIGHT-OF-WAY ACQUISITION
 STP00-0123-00(456)
 STA 56+83.14
 SR 100 SPUR

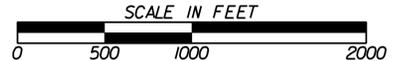
FUNCTIONAL CLASS: RURAL PRINCIPAL ARTERIAL
 PROJECT DESIGNATION: EXEMPT



PLANS PREPARED BY _____
 UNDER THE SUPERVISION OF
 BRENT STORY, P.E.
 OFFICE OF ROAD DESIGN

APPROVED: HOWARD P. COPELAND, STATE RIGHT OF WAY ADMINISTRATOR DATE
 LOCATION AND DESIGN APPROVAL DATE: MAY 7, 2002

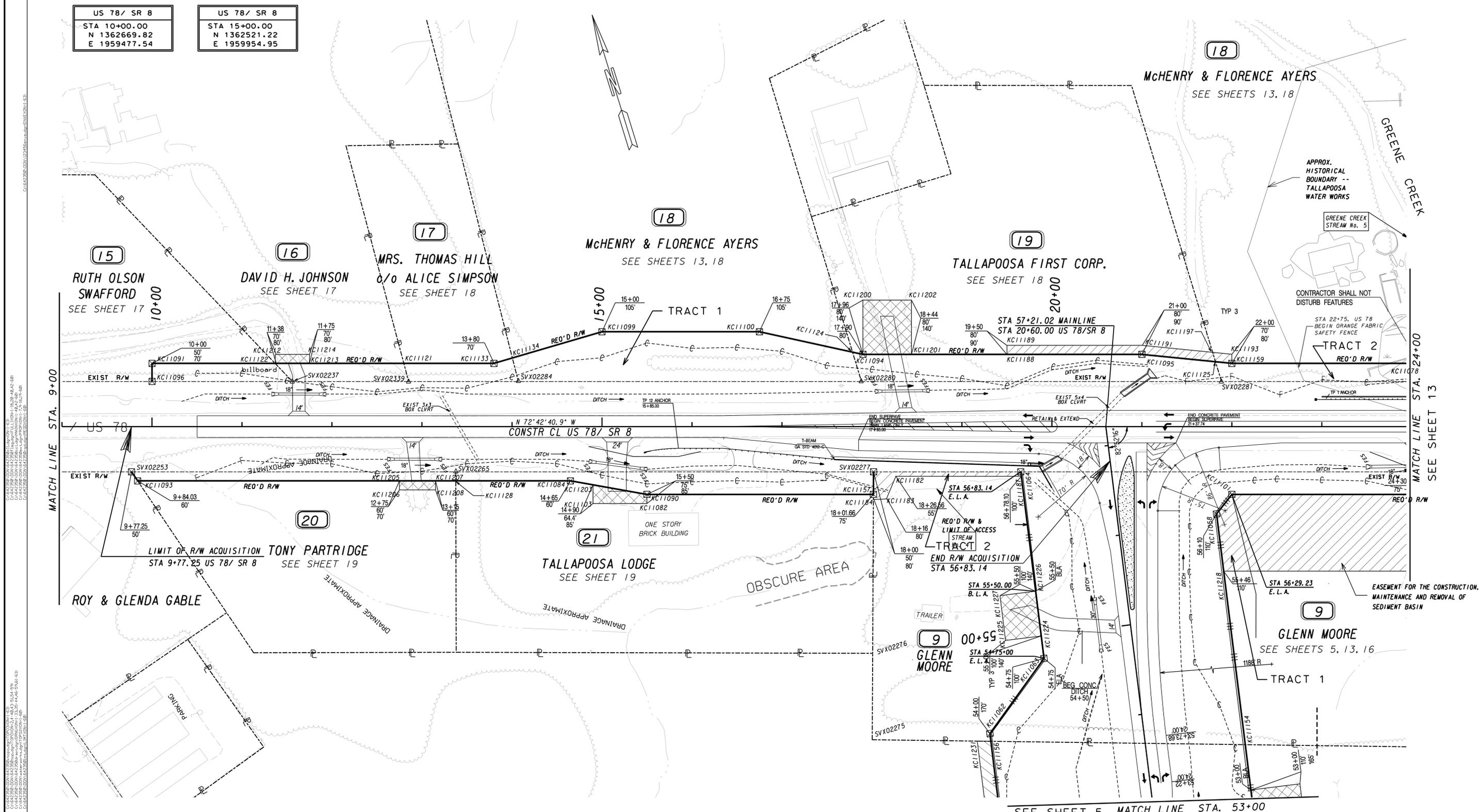
LENGTH OF RIGHT OF WAY PROJECT	COUNTY NO.
	MILES
NET LENGTH OF RIGHT OF WAY	0.873
NET LENGTH OF BRIDGES	0.000
NET LENGTH OF EXCEPTIONS	0.000
GROSS LENGTH OF RIGHT OF WAY	0.873



THIS PROJECT IS LOCATED 100% IN HARALSON COUNTY AND CONGRESSIONAL DISTRICT 7.

STP00-0123-00(456)
 HARALSON COUNTY

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANYWAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTIONS 102.04, 102.05, AND 104.03 OF THE SPECIFICATIONS.



PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	---
EASEMENT FOR CONSTR OF SLOPES	---
EASEMENT FOR CONSTR OF DRIVES	---

BEGIN LIMIT OF ACCESS.....BLA	---
END LIMIT OF ACCESS.....ELA	---
LIMIT OF ACCESS	---
REQ'D R/W & LIMIT OF ACCESS	---

SCALE IN FEET

0 50 100 200

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

DATE	REVISIONS	DATE	REVISIONS

DATE	REVISIONS	DATE	REVISIONS

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAP
PROJECT NO: STP00-0123-001456
COUNTY: Haralson
LAND LOT NO: 103
LAND DISTRICT: 8
GMD 653
DATE 5-7-2002 SH OF