Post Design-Build Evaluation Report

Project Description: SR 204 Spur/ Skidaway Narrows Bridge Replacement
P.I. Number: 0008651
County: Chatham
GDOT District: District 5

Date Conducted: January 18, 2017

Skidaway Narrows bridge under construction with existing bridge in foreground

1. **Project Description:** Project Number CSSTP-0008-00(651) replaced the structurally deficient, existing bascule bridge (Structure ID 051-0147-0) over Skidaway Narrows located on State Route 204 SPUR/Diamond Causeway. The complete removal of the existing bridge was required. The substructure was removed to 2'-0" below the existing ground or U.S. Corps of Engineers' dredging template in accordance with the U.S. Corps of Engineers' Section 10 permit.

2. **Design-Build delivery goal(s):** Expedite delivery and, as one of the first Design-Build projects, leverage the DB process and the industry to provide a solution which met the project goals.

3. **Project stakeholders:**
   - GDOT – Innovative Delivery, District 5, Environmental Services, others
   - United Contractors – Prime Contractor
   - Michael Baker International – Prime Designer/ Engineer of Record
   - The Landings
   - EPD
   - Army Corps of Engineers
   - DNR

4. **Project Summary:**

	Project Milestone	Date
Pre-Let	Public Notice Advertisement (PNA)	10/26/2007
	Request for Qualifications (RFQ)	11/16/2007
	Letter of Interest (LOI)/Statement of Qualifications (SOQ)	01/25/2008
	Notice to Finalists	06/12/2008
	Request for Proposals (RFP)	07/24/2009
	Administrative Package Due	N/A
	Technical Package Due	N/A
	Price Proposal / Project Letting	10/16/2009
Post-Let	Project Award	11/03/2009
	NTP – Preliminary Design	12/04/2009
	Authorized for Construction	6/2009
	GEPA (EER) Re-Evaluation	11/23/2010
	Conditional NTP 3 – Construction Phase	11/04/2010
	Milestone Deadline – New Bridge Open to Traffic	11/30/2012
	Contract Completion Date	07/31/2013
	Substantial Project Completion	08/21/2016

5. **Design-Build Proposers:**

	Contractor	Designer	Total Bid
1	**United Contractors**	**Michael Baker International**	**$22,489,997.00**
2	Scott Bridge Company	Florence & Hutcheson	$22,869,375.00
3	Balfour Beatty Infrastructure	STV/ Ralph Whitehead	$24,596,600.00
4	Archer Western Contractors	Heath & Lineback Engineers	$25,379,600.00
5	TIC- The Industrial Company	URS Corporation	$27,747,922.00
6	Cape Romain Contractors	Wilbur Smith	$30,244,406.36

Note: Skanska/Arcadis was initially shortlisted but opted to not submit a price/technical proposal.

6. **Stipend**
   a. Was a stipend (stipulated fee) offered to proposing Design-Build Teams? ☐ Yes ☒ No
      If yes, how much per firm: N/A

7. **Design-Build Request for Proposals (RFP)**
   a. Type of procurement: ☐ One Phase/Low Bid ☒ Two Phase/Low Bid ☐ Best Value
      Note: The Department initially shortlisted five highest qualified proposers, but was revised to allow all seven qualified firms who submitted a responsive qualifications package to submit a bid. A lesson learned from this procurement process is to ensure the evaluation criteria and the scoring of that criteria is clear in the Request for Qualifications (RFQ).

   b. Advertisement duration: ☐ 30 days ☐ 60 days ☒ 90 days
   c. Was a draft RFP released for this project? ☐ Yes ☒ No
      If yes # of releases: - N/A
      Note: Request for Proposals used previous version of the Design-Build contract known as "SP 999" as an attachment to the typical GDOT specifications. SP 999 has since been replaced with a Design-Build contract.

   d. Was a Q&A format provided? ☐ Yes ☒ No
   e. Were One-on-One meetings held with proposers? ☐ Yes ☒ No
   f. List GDOT offices involved in the RFP development: Design Policy & Support, Engineering Services, Environmental Services, Innovative Delivery, Utilities, Construction, Bridge, District 5, Traffic Operations

8. **Design-Build RFP Package**
   a. List items included in the RFP package:

Item	Yes	No	Notes
Costing plans		X	Concept layouts were provided
Bridge layouts		X	Only clearance requirements specified
Approved concept report/concept revision	X		Provided on GDOT's FTP site
Approved Environmental Document	X		Provided on GDOT's FTP site
CAiCE files		X	Provided on GDOT's FTP site
Microstation files	X		Microstation file showing wetland delineation
Approved Design Exceptions/Variances		X	N/A

Geotechnical Reports	X		Original BFI for existing bridge
Approved Pavement Design		X	Design-Build Team responsible for final pavement design. Preliminary (unapproved) design included on FTP site
Pavement Design Alternative		X	
Overhead/Subsurface Utility Engineering (SUE) Quality Level "B" (QL-B)	X		Existing utility information provided.
Utility Memorandum of Understanding (MOU)	X		MOUs included in contract by Addendum
Costing Plan Review Report		X	
Draft Transportation Management Plan (TMP)		X	
Other	X		Survey Control database, Specifications, restrictive covenant, revocable license, VE study & Implementation Letter

b. General observations of the RFP contents and/or procurement process:
   - None

c. Were conflicts in project scope identified: ☒ Yes ☐ No

   If yes, what sections should be revised for future RFPs:
   - Discrepancies in scope of foundation work.
   - More geotechnical data collected and provided to proposers during bidding phase is preferred. Otherwise each Contractor has to perform their own investigations with these costs eventually being passed on to GDOT.
   - More detail on paved shoulder thickness requirements. The RFP just had a written description noting shoulder paving should be full depth.

9. **Environmental**

a. Type of document: ☒ NEPA: Level: ☐ PCE ☒ CE ☐ EA/FONSI ☐ EIS/ROD
   ☐ GEPA: Level: ☐ Type A ☐ Type B ☐ EER/NOD

b. Was the environmental document approved prior to the RFP advertisement? ☒ Yes ☐ No

   If no, when was the NEPA/GEPA document approved? Env document approval from FHWA occurred one week prior to final advertisement of RFP. RFP was previously advertised without environmental approval.

c. Was a re-evaluation performed post-let? ☒ Yes ☐ No

   If yes, describe scenario why a re-evaluation was required:
   - A change re-evaluation was completed to address the following –
     - Updated Env Commitments Table showing Design-Build team impacts. Completed 404 Permit, Stream Buffer Variances and proof of mitigation.
     - Restrictive Covenant was approved after approval of NEPA re-eval.

   If yes, did the Design-Build Team perform the re-evaluation? ☐ Yes ☒ No

   Did the Design-Build Team provide supporting documentation? ☒ Yes ☐ No

d. General observations of the pre-let or post-let environmental process:
   - Too much risk including mitigation site plans and construction in the contract. It was tough to get plantings established and the Corps' expectations were not well known by GDOT or DB Team.

10. **Environmental Permitting**
    a. Type of 404 permit required: ☒ NWP ☐ IP ☐ Other ☐ None
    b. Was mitigation required as part of the permit? ☒ Yes ☐ No
       If yes, did the Design-Build Team perform mitigation and/or acquire credits? ☒ Yes ☐ No
       Design-Build Team was responsible for on-site construction and design of mitigation site.
    c. Was a Stream Buffer Variance (SBV) required? ☒ Yes ☐ No
    d. List any other permits required by the project (not counting NPDES Permit):
       - Coast Guard Permit
    e. General observations of the environmental permitting process:
       - DB Team recommends purchasing mitigation credits over the DB team providing plans and constructing mitigation sites. Regarding who pays for mitigation, an allowance, based on location of project, may reduce risk in bidding of projects since mitigation site prices fluctuate for primary and secondary banks.
       - Mitigation sites constructed in GDOT right-of-way can become an ongoing maintenance issue for GDOT.

11. **NPDES Permit**
    a. Did the Design-Build Team prepare the Notice of Intent (NOI)? ☐ Yes ☒ No ☐ NA
    b. Did the Design-Build Team pay the NPDES permitting fee? ☐ Yes ☒ No ☐ NA
    c. Were the ESPCP regularly redlined? ☒ Yes ☐ No ☐ NA
    d. Did any self-report actions occur? ☒ Yes ☐ No
       If yes, describe the reason(s) and outcome(s): It was self-reported that there was no pumping plan for de-watering the caissons. The adjustments made by the DB Team received a positive response from EPD.
    e. Was a consent order filed? ☐ Yes ☒ No
       If yes, describe the reason(s) and outcome(s):
    i. Additional comments: Notice of Termination issued February 27, 2015 had to be amended to conduct mitigation site construction in 2016.

12. **Right of Way (R/W)**
    a. Was R/W required? ☐ Yes ☒ No
       If yes, who was responsible for R/W? ☐ GDOT ☐ Locals ☐ Design-Build Team
       If yes, was it acquired prior to award of the Design-Build contract? ☐ Yes ☐ No
       If yes, did R/W acquisition activities impact the project schedule? ☐ Yes ☐ No
    b. How were R/W commitments or cost-to-cure elements handled on this project:
       -
    c. List any special circumstances, conditions, or property owner commitments of R/W acquisition:
       - Fish and Wildlife requested – and received – driveway upgrades into their facility as part of project.
    d. General observations of the R/W acquisition process:
       - None

13. **Utilities**
    a. Was SUE performed pre-let and included in the RFP package? ☐ Yes ☒ No
       If yes, what level? ☐ QL-D ☐ QL-C ☐ QL-B ☐ QL-A
       If No, what was the mitigating activity (e.g. white lining specification, "no-conflict" letters, first submission plans):
       - The risk was on the DB Team to perform utility coordination.

    b. Were Design-Build Utility MOU's executed? ☒ Yes ☐ No
    c. List the utility owners, if any, which were included in the Design-Build contract: Atlanta Gas Light, AT&T, Georgia Power (distribution), Georgia Power (transmission),
    d. Generally describe observations with respect to Design-Build utility coordination:
       - Utilities relocated outside of Design-Build contract at their own expense. Project was awarded prior to implementation of Public Interest Determination.
    e. Generally describe any areas of improvement with respect to Design-Build utility coordination:
       - Coordination with GA Power regarding their driveway could have been better. It was never built, but it was determined at the meeting they will (or have) built it themselves.
    f. What was the frequency of utility coordination meetings:
       - As needed

14. **Geotechnical**
    a. Was an approved Soils Report included in the RFP package? ☐ Yes ☒ No
       If no, was a Soils Report required for the project? ☒ Yes ☐ No
    b. Was an approved BFI included in the RFP package? ☐ Yes ☒ No
       If no, was a BFI required for this project? ☒ Yes ☐ No
    c. Was an approved WFI included in the RFP package? ☐ Yes ☒ No
       If no, was a WFI required for this project? ☒ Yes ☐ No
    d. Was an approved High Mast Foundation Investigation report included in the RFP package? ☐ Yes ☒ No
       If no, was a HMFI required for this project? ☐ Yes ☒ No
    e. Were there any geotechnical issues encountered on construction? ☒ Yes ☐ No
       If yes, describe issues and outcome:
       - Settlement concerns and wait times

15. **Design and Construction Phases**
    a. Did the Design-Build Team advance portions of the project to the construction phase while other portions of the project continued to be designed and/or permits obtained? ☒ Yes ☐ No
       If yes, describe: Conditional NTP 3 (for phased construction activities) initially included language excluding "fill in streams and wetlands until the restrictive covenant is recorded." Areas included within the conditional NTP 3 were driving piles, clearing and fill in upland areas and drainage structures. NTP 3 for all remaining construction activities was issued November 23, 2010.
    b. Describe the typical frequency for progress meetings? During the Design phase the meetings were monthly. During construction Phase the meetings were 2 times a month.
    c. Were the Design-Build Team plans/submittals of acceptable quality? ☒ Yes ☐ No
       If no, describe issue and any corrective actions taken: -

d. Were GDOT's review times adequate? ☐ Yes ☒ No

If no, describe: Design review times were fine. During construction items that required OMAT review often required much more than 30 days.

General observations of review times:

- This project was pre e-Builder
- GDOT construction personnel and DB Team thought OMAT review times should have been shorter.

e. Was the Asphalt Index specification included in this project? ☒ Yes ☐ No

f. Was the Fuel Index specification included in this project? ☐ Yes ☒ No

g. Was construction the Maintenance of Traffic (MOT) acceptable? ☒ Yes ☐ No

If no, describe:

h. Was the Schedule of Values adequate? ☒ Yes ☐ No

If no, describe:

i. Was the pay voucher and overall payment process acceptable? ☒ Yes ☐ No

If no, describe:

j. Was the Critical Path Method (CPM) schedule specification used on this project? ☐ Yes ☒ No

If yes, describe general experiences (pro or con) using the CPM specification:

- A CPM schedule spec was not included in the Design-Build contract, although the contract did mention a detailed project schedule and the contractor did provide a CPM schedule for review.

If yes, any suggested improvements to the use of CPM schedule:

- None

k. Were there any unique issues (to Design-Build) that occurred? ☒ Yes ☐ No

If yes, describe:

- The DB Team bridge design did not include overhangs outside of the bridge barrier. The DB Contractor has successfully designed and built numerous bridges using this method. However, the DB Team construction personnel chose to install a 2-feet wide walkway on the inside of the barrier for the deck pour which then required hand pours to fill in this area. GDOT Construction personnel believe this resulted in an inferior finished product that will require ongoing maintenance. This type of bridge design would not be allowed in a design-bid-build contract.

l. Were sound barriers required on this project? ☐ Yes ☒ No

If yes, describe the material/color:

If yes, was the sound barrier material/color specified in the contract? ☐ Yes ☐ No

If yes, was the sound barrier height/location specified in the contract? ☐ Yes ☐ No

m. Were there lane closure restrictions on this project? ☒ Yes ☐ No

If yes, were they adequate or could they have been modified for efficiency:

- Restrictions were adequate

n. Were there ITS outage restrictions on this project? ☐ Yes ☐ No ☒ NA

If yes, were they adequate or could they have been modified for efficiency:

o. Were there new or existing Traffic Signal modifications required? ☐ Yes ☒ No

If yes, were the traffic signal permits obtained by GDOT: ☐ Yes ☐ No

p. Were As-built plans prepared by the Design-Build Team? ☒ Yes ☐ No ☐ Pending

16. **Design-Build Innovations**

a. Were there innovative designs, solutions or materials used on this project? ☒ Yes ☐ No

If yes, describe:

- No overhang outside of the barrier on bridge
- Spliced girder
- Lightweight concrete in the bridge deck

b. Were any Value Engineering Proposals (VEP) submitted? ☐ Yes ☒ No

If yes, fill out the below information:

No.	VECP Description	Total Savings	Approved
1		$	N/A

e. List other benefits that are not reflected in the cost savings:

17. **Supplemental Agreement Summary**

SA No.	Amount	Description
1	$517.50	Settlement Agreement
2	$42,808.43	Extra work excavation and modify lump sum for construction
3	$0.00	Add 375 calendar days to site 00 and 316 days to site
4	$103,276.75	Settlement Agreement

18. **DBE**

a. What was the project's DBE goal? 12%

b. Was it or will it be met? ☒ Yes ☐ No

If yes, generally describe utilization:

- Multiple disciplines in both design and construction phases

19. **Summary of observations from Office of Innovative Delivery (OID), Construction, DB Team**

a. Escalate concerns observed during design and construction phases as soon as they are observed

b. Document an escalation process – either in the Design-Build contract or Manual. Intent is to create a channel that could include leadership with DB Team and GDOT to sit down and discuss issue(s) as they are occurring

c. Lack of quality acceptance documents in field by both Construction and Contractor

d. Department should be more clear on those parameters that are "must-haves" and the contractor should have more flexibility within those parameters.

20. **Recommendations**

a. For some issues provide 3rd party arbitration

b. GDOT construction personnel should be involved earlier in the process

21. **Notable achievements by early interaction of design and contractor**

a. The most notable achievement is that the project was completed faster than a conventional bid-build; there are similar size projects that are mired in environmental permitting and drag out for many more years than it took to design AND construct this project.

b. 23% Higher capacity was utilized in the piling through use of a statnamic load test; resulting in cost savings to the bid received by the department.
c. Settlement control was efficiently handled through the use of geogrid reinforcing and surcharging of slopes. Typically the Department would have required the use of costly wick drains or an extended settlement wait times.
d. USACE permitting was expedited through the utilization of a design-build team.
e. Construction elements previously prohibited in Georgia, such as tall pile bents, Florida Bulb Tees, zero overhang decks, Spliced Girders, and hybrid (partially walled) endrolls, were successfully utilized to expedite the construction.

22. **Post Design-Build Evaluation participants:**

NAME	TITLE	OFFICE/COMPANY	PHONE	EMAIL
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