

Post Construction Design-Build Evaluation Report

Project Description: SR 47 @ Little River – Bridge Replacement

P.I. Number: 232310-

County: Columbia/Lincoln

GDOT District: District 2

Date Conducted: October 13, 2016



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Little River Bridge
Columbia County
July 25, 2016

1. **Project Description:** State Route (SR) 47 over Little River (Clarks Hill Lake) begins at approximately Mile Post (MP) 16.25 in Lincoln County and ends at approximately MP 0.85 in Columbia County. The project was to design-build a new bridge over Little River including the removal of the existing bridge and columns within the lake.
2. **Design-Build delivery goal(s):** Expedite delivery and to make use of available funds.
3. **Project stakeholders:**
 - GDOT – Office of Innovative Delivery, Bridge, Construction, Engineering Services, DP&S, OES and others
 - Scott Bridge Company, Inc. – Prime Contractor
 - Michael Baker Jr., Inc. – Prime Designer
 - USACE
 - DNR

4. **Project Summary:**

	Project Milestone	Date
Pre-Let	Public Notice Advertisement (PNA)	01/25/2013
	Request for Qualification (RFQ) issued	05/24/2013
	Statement of Qualifications (SOQ) due	07/10/2013
	Selection of Finalists	07/31/2013
	Request for Proposals (RFP)	08/23/2013
	NEPA Approval	10/11/2013
	Letting (A+B)	11/22/2013
Post-Let	Award	12/11/2013
	NTP 1 – Preliminary Design	01/24/2014
	NTP 2 – Final Design	01/28/2014
	Conditional NTP 3 – Construction	10/31/2014
	NTP 3 – Construction	12/05/2014
	NEPA Re-Evaluation #1 Approval	07/31/2014
	NEPA Re-Evaluation #2 Approval	08/20/2015
	NEPA Re-Evaluation #3 Approval	06/18/2016
	Shift Traffic To New Bridge	07/07/2016
	Original Contract Completion Date	08/21/2016
	Actual Project Completion	TBD
Contract Completion Date via SA	11/18/2016	

5. **Design-Build Proposers:**

	Contractor	Designer	Total Bid	Total Duration
1	Scott Bridge Company, Inc.	Michael Baker Jr., Inc.	\$24,066,000.00	940 Days
2	Archer Western Contractors, LLC	Reynolds Smith & Hill, Inc.	\$29,184,000.00	1080 Days
3	E.R. Snell Contractor, Inc.	Moreland Altobelli Associates, Inc.	\$35,195,898.00	1278 Days
4	Superior Construction Company	Parsons Transportation Group, Inc.	\$76,004,000.00	1105 Days

6. Stipulated Fee

- a. Was a stipulated fee (stipend) 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: Project award was based on an A+B formula. The idea was to allow the industry to specify their duration to best suit their means and methods to performing the work.

A+ B = Bid Value

A = dollar amount for contract items

B = calendar days to design & build the project x LD's

LD's = standard daily LD's (per GDOT 2013 spec manual is \$1869/day)

- 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

- 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 2

8. Design-Build RFP Package

- a. List items included in the RFP package:

Item	Yes	No	Notes
Costing plans	X		
Approved bridge layouts		X	
Approved concept report/concept revision	X		
Approved Environmental Document	X		
CAiCE/InRoads files	X		
Microstation files	X		
Approved Design Exceptions/Variations	X		
Approved BFI	X		Based on original bridge design concept
Approved WFI		X	
Approved Soils Report	X		
Geotechnical borings	X		To minimize risk, GDOT provided 6 additional boring logs. Samples housed at OMAT.
Approved Pavement Design	X		
Pavement Design Alternative		X	
Overhead/Subsurface Utility Engineering (SUE) Quality Level "B" (QL-B)	X		
Utility Memorandum of Understanding (MOU)	X		
Costing Plan Review Report	X		
Draft Transportation Management Plan (TMP)		X	
Other	X		Existing Bridge Plans, Hydraulic data, meeting minutes, PAR, and VE Study

- b. General observations of the RFP contents and/or procurement process:
- o Project used SP 999 (Design-Build)
 - o Geotech conditions were a concern as GDOT developed the RFP. GDOT obtained additional boring data and provided to proposing Design-Build Teams. This additional information was a big factor in keeping cost estimates low. The Design-Build Team would recommend having this information provided with all Design-Build projects where an approved BFI specific to the project is not provided.
 - o A+B was the first use on a Design-Build project. On this project apparent low bidder had the lowest number of days to design and build the project.
 - o SP 999 wouldn't allow removing the bridge during certain times, but didn't state why. A little more clarification could have helped reduce costs.
 - o During the time of advertisement and design of the project, GDOT did not have an approved LRFD software for use on bridge design. The Engineer of Record requested that future projects allow the engineer to design a substructure with a software at their discretion.
 - i. After discussions with the Bridge Office: The Department review the available LRFD bridge design programs and provide a list of acceptable programs to use on GDOT projects.
- c. Were conflicts in project scope identified: Yes No
- If yes, what sections should be revised for future RFPs:

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
- c. Was a re-evaluation performed post-let? Yes No
- If yes, describe scenario why a re-evaluation was required:
- o During a field plan review with the Design-Build Team, GDOT/FHWA/Design-Build Team discussed removing 2 bents near each end bent. This precipitated the need for a reduction in costs (approximately \$70k), hydraulic variance and a NEPA re-evaluation to document the change. In the end, this was a great decision.
 - o Second re-evaluation was due to the Design-Build Team revising, during the construction phase, the foundation type for Bent 12 from drilled shaft to pile driven footing.
 - o Third re-evaluation was due to the USACE/EPD requesting GDOT remove an enhanced swale/ditch in front of USACE owned property.
- 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:
- o Early coordination with USACE was a great benefit to the success of the project. While the project was under environmental re-evaluations, construction was allowed to proceed unhindered.

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

- c. Was a Stream Buffer Variance (SBV) required? Yes No
- d. List any other permits required by the project (not counting NPDES Permit):
 - o Section 408 coordination between GDOT and USACE did occur.
- e. General observations of the environmental permitting process:
 - o The Design-Build Team suggested a quantity for mitigation credits be established with same unit costs because cost varies among the different type of credits. This could minimize bid amounts by reducing risks to the bidding Design-Build Teams.

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): -
- e. Was a consent order filed? Yes No
- i. Additional comments: None

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: -
 - o 4 parcels were impacted which required temporary easement. All R/W was owned by USACE. No specific cost-to-cure items were required; however, one commitment the USACE requested included placing gravel in an existing USACE parking lot which was included in the Environmental Commitments Table.
- c. List any special circumstances, conditions, or property owner commitments of R/W acquisition: - None
- d. General observations of the R/W acquisition process:
 - o Design-Build contract included a hard date for right of entry. Section 408 coordination with the USACE was required before the acquisition could be complete. Although the contractual Right of Entry dates included in the contract were not met b/c of Section 408 coordination, the Right of Way was never on the critical path.
 - o The Design-Build Team would prefer the Right of Way dates are completed by the date provided in the contract or take the risk off them (Design-Build Team) by allowing more time. Although it did not affect them in the time to complete the construction, missing these dates could really affect schedules on future projects.

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, was a 'SUE waiver' approved by the State Utilities Office? Yes No
If No, what was the mitigating activity (e.g. white lining specification, "no-conflict" letters, first submission plans):

- 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: Columbia County Broadband, Georgia Power Transmission (GPT)
- d. Generally describe observations with respect to Design-Build utility coordination:
 - o Early coordination with GPT occurred during development of RFP. This was critical because it brought about several contractual requirements including installation of gates along the new mainline to the old roadbed to allow GPT access to maintain their facility, as well as timeframes where the GPT could not de-energize their facility.
- e. Generally describe any areas of improvement with respect to Design-Build utility coordination:
 - o Identification of utilities that present the highest risk and meet with them during development of the RFP.
- f. What was the frequency of utility coordination meetings:
 - o The number of and impacts to utilities were minimal on this project and regular meetings were not necessary.

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 Found 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:
 - o From a schedule perspective the time it takes to drill for drilled shafts presented a challenge to sequencing the work.
 - o The Design-Build Team also noted that the more info (specifically BFI) presented upfront gives the Design-Build team more options and better value.

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: The Design-Build Team received a conditional NTP 3 to proceed to construction for roadway/approach work while the design of bridge plans and Right of Way acquisition proceeded. This is a value to the schedule from utilizing Design-Build delivery.
- b. Describe the typical frequency for progress meetings? Monthly
- 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:

General observations of review times:

- o All review times by GDOT were met. USACE and FHWA were very supportive to expedite some level of their reviews.
- 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 staging/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:
 - o Overall it was a good experience, but one issue that did come up was showing completion dates beyond the contract date. This issue was discussed including an option that forced the completion date to meet the contract date, essentially a second schedule, but in the end the dates were shown beyond the contract date with an explanation from the Design-Build Team.
If yes, any suggested improvements to the use of CPM schedule:
 - o None
- k. Were there any unique issues (to Design-Build) that occurred? Yes No
If yes, describe:
 - o Bent 12 was redesigned using a pile footing instead of the drilled shaft/caisson. This minimized the amount of work required at this bent and it also helped the Design-Build Team to avoid delays by using on site resources.
- 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:
 - o Much of the work was performed outside of traffic. During development of the RFP, the goal of expedited delivery was a core focus.
- 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: N/A
- 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:

- The redesign of Bent 12 mentioned above allowed the Design-Build team to save time and meet the overall project completion date.
- The existing truss bridge was removed without impacting service provided by the Georgia Power distribution line along the side of it.
- The Design-Build Team worked with the USACE to use old material to create new fish habitats upstream from the project. This created a win-win for the project and the USACE.

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

If yes, fill out the below information:

No.	VEP Description	Total Savings	Approved
None			

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

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17. Supplemental Agreement Summary

SA No.	Amount	Description
1	(\$88,265.41)	Removal of 2 bridge bents from the lake, Stream Buffer Credit Revision due to bent removal and a drainage features not being constructed per request of USACE, and 5 girders with deficient cylinder breaks
2	\$0	Total of 89 calendar days added to the Contract via Global Settlement Agreement between GDOT and Scott Bridge Co.

18. DBE

- a. What was the project’s DBE goal? 9%
- b. Was it or will it be met? Yes No Pending final report

Generally describe utilization:

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19. Summary of observations from Office of Innovative Delivery (OID)

- a. Early risk identification was helpful. This led to the following:
- Coordination with the USACE (Savannah Branch/Lake Division) during RFP development specifically to discuss the Design-Build approach
 - Coordination with Georgia Power Transmission (GPT)
 - GDOT obtaining 6 additional geotechnical borings with data provided as part of RFP
- b. First use of A+B contracting.
- c. Relatively quick turnaround from time OID received the project (project originally managed by GDOT Office of Program Delivery and designed in-house by D2) to advertisement/award.

20. Summary of observations from District Office

- a. None

21. Summary of observations from Design-Build Team

- a. This was the perfect project for utilization of the Design-Build method.

22. Recommendations

- a. None

23. Notable achievements by early interaction of design and contractor

- a. Monthly meetings were the key to a good project.
- b. Early coordination with EPD minimized ecology impacts which allowed the project to go from an Individual Permit to a Nationwide Permit.
- c. The Design-Build Team coordinated with the local USACE lake manager to utilize the demolition concrete bridge material (steel reinforcing removed) to create fish habitats. The fish habitat locations were provided by the USACE where it was identified the lakes biological ecosystem would benefit.

24. Post Design-Build Evaluation participants:

NAME	OFFICE/COMPANY	PHONE	EMAIL
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