

**Alternative Technical Concepts and Design Build
Projects**

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I. Introduction/Problem Statement

a. Design Build as a project delivery method in South Carolina

The South Carolina Department of Transportation (SCDOT) is the agency in South Carolina charged with the construction and maintenance of the state's primary and secondary road system, which is the fourth largest in the United States and totals over 41,000 miles. The traditional procurement method for construction contracts that the SCDOT obtains is the Design-Bid-Build method wherein the project is designed, bid, and constructed in separate, consecutive steps. SCDOT procures essentially all of its construction contracts using the Design-Bid-Build method. The Design-Bid-Build method affords a repeatable, known process that is familiar to both the agency and contractors, is widely accepted across the industry, and is appropriate for the large majority of standard projects. A drawback to the Design-Bid-Build process is the time required to take a project from inception to completion. From the time a project is approved, surveyed, designed and permitted to the end of construction can take upwards of six years. In addition, the designer, bidder, and contractor are three separate entities and are not tied to each contractually or philosophically and there is no over-arching common goal for the project's completion.

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There is another method of project delivery in the SCDOT's toolbox that can be used when a project's size, complexity, or urgency indicates that it would be a good candidate for an alternative delivery method. This alternative delivery method is known as the Design-Build method of procurement. In the Design-Build method, the project is designed and constructed in parallel, concurrent efforts. The designer and the contractor are both members of the same team and are therefore in constant contact as the project progresses. They are able to work in concert and combine their respective expertise to come up with the most efficient, cost effective approach to completing the project.

The SCDOT has used the Design-Build method of procurement for major highway and bridge projects since 1998 with the Conway Bypass project (SC Route 22) in Horry County being the SCDOT's initial foray into that particular form of procurement. Between the years 1998 and 2010, the SCDOT's approach regarding the use of Design-Build was hit and miss at best. Projects were not identified as candidates for Design-Build early in the project development phase, were haphazardly chosen, and were developed in different areas of the agency resulting in a fragmented, inconsistent approach.

In 2010, the Federal Highway Administration (FHWA) implemented an initiative known as "Every Day Counts"¹. Every Day Counts is an effort to encourage improvements in overall processes but specifically in project delivery and the time associated with completing traditional highway projects. As a result of the Federal government's initiative, and working in close coordination with the FHWA, the SCDOT laid out its goals in an Action

¹ <http://www.fhwa.dot.gov/everydaycounts/>

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Plan² and also incorporated its vision for Design-Build into the agency's Strategic Management Plan³.

b. Definition of Alternative Technical Concepts

The Design-Build method of project procurement affords both the owner (SCDOT) and the contractor greater flexibility in how the project is pursued. The greatest flexibility is realized when a practice known as Alternative Technical Concepts (ATC) is used within a Design Build procurement. ATC's allow the SCDOT to take advantage of value engineering principles in a pre-bid scenario rather than through change orders or other contractual changes. In a design build project, instead of traditional construction drawings, specific requirements for the project are laid for each of the prospective contractors on which to base their bid for the project. These requirements are the criteria the contractor must use to design the project and depending on the type of project can include such requirements as a specific type of interchange, the type of pavement to use, a minimum height for a bridge, or a specific construction method. When ATC's are not used in design build procurement, the contractor must adhere to all criteria as defined in the scope of the project without any deviation. Deviation from the required scope can lead to the contractor being deemed non-responsive and disqualified from the procurement.

² http://www.scdot.org/inside/pdfs/SC_EDC_action_plan.pdf

³ http://www.scdot.org/inside/pdfs/smp_2014.pdf

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When ATC's are used, contractors are able to think and work "outside the box" while remaining responsive to the Request for Proposals (RFP) and eligible to pursue the project. Their proposed changes to the requirements must result in a product that is equal to or better than that specified in the requirements of the RFP. The process by which the contractor may propose an ATC is detailed in the RFP. An example from a recent SCDOT design build is included in Appendix 1 and details the process by which the contractor first proposes an ATC and how the SCDOT reviews and evaluates the ATC and ultimately either approves or disapproves the proposal. This process is done completely confidentially and one-on-one with each contractor. In the process, the SCDOT and the taxpayers of South Carolina are able to fully realize the expertise and innovation that multiple teams can bring to a project. The successful contractor is able to incorporate his ideas and designs into the project outside of the original project scope. The unsuccessful contractors are paid a stipend and their ideas then become the intellectual property of SCDOT and the SCDOT is then able, if appropriate, to incorporate those ideas into the current project and future projects as well.

The SCDOT to date has used ATC's on three completed design build and ATC's are being evaluated on two other projects that are currently being actively procured. To date, an evaluation of ATC's effectiveness has not been performed and is the aim of this project. Through a cataloging of ATC's submitted and an analysis of their effect on bid prices, this project will aim to determine if the use of ATC's by SCDOT has been of benefit to the agency thus far and whether going forward, the practice is a worthwhile tool in the design build

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toolbox. The Transportation Research Board⁴ is an excellent source for further reading on both the Design Build method of procurement and the incorporation of ATC's into project proposals.

II. Data Collection

The data for this evaluation was readily available as the subject projects were all developed very recently in the author's office and the author was the engineer responsible for the projects. The following tables show all ATC's submitted for the three projects to date that have employed them. The green shaded entries show ATC's submitted by contractors that were eventually the successful bidders and were subsequently awarded the project. The goal in collecting this data is to, for the first time, examine all of the design build projects to date that have used ATC's and to determine what, if any, the impact of implementing ATC's has had on the bids submitted.

Table 1

Interstate 26 Widening and Rehabilitation (Lexington and Calhoun Counties) Daily Cost of Project - \$10,000/day				
Contractor	Description of ATC	Estimated Cost Impact	Schedule Impact	Approved/ Disapproved
AC/Boggs	Slope Steepening	(\$110,000)	None	Approved
AC/Boggs	Lane Closure Deviation	(\$100,000)	(200 days)	Not Approved
AC/Boggs	Liquid Asphalt Binder	(\$15/ton LAB)	None	Approved
McCarthy	Pavement Design	(\$650,000)	None	Approved
United	Pavement Design	N/A*	N/A*	Approved
United	Liquid Asphalt Binder	N/A*	None	Approved

* Contractor indicated both time and cost saving but did not quantify.

⁴ [http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/NCHRP20-07\(172\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/NCHRP20-07(172)_FR.pdf)

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Table 2

Interstate 95/US 301 Interchange Improvements (Orangeburg County) Daily Cost of Project - \$7,500/day				
Contractor	Description of ATC	Estimated Cost Delta	Schedule Impact	Approved/ Disapproved
CR Jackson	Ramp Re-alignment	(\$300,000)	Positive	Not Approved
CR Jackson	Long Term Lane Closure	N/A*	N/A*	Approved
CR Jackson	Mainline Pavement Design	N/A*	N/A*	Not Approved
CR Jackson	Asphalt Shoulders	N/A*	N/A*	Not Approved
CR Jackson	Modified Base Course	N/A*	None	Not Approved
Lane	Typical Section Revision	(\$400,000)	(21 days)	Not Approved
Lane	Collector-Distributor Road	(\$200,000)	(40 days)	Approved
Lane	Long Term Lane Closure	(\$450,000)	(270 days)	Approved
Lane	Short Term Ramp Closure	(\$40,000)	(14 days)	Approved
McCarthy	SC Rte 6 Re-alignment	(\$350,000)	(60 days)	Approved
McCarthy	Interchange Design	(\$2,500,000)	(90 days)	Not Approved
McCarthy	Bridge Design Revision	(\$75,000)	None	Approved
McCarthy	Bottomless Culvert	None	(360 days)	Approved ⁵
McCarthy	Flat Slab Bridge	None	(360 days)	Approved
Superior	Bottomless Culvert	(\$150,000)	(360 days)	Approved
Superior	Bridge Design Deviation	(\$65,000)	None	Not Approved
United	Interchange Design	(\$4,000,000)	(30 days)	Not Approved

* Contractor indicated both time and cost saving but did not quantify.

(This section left blank intentionally.)

⁵ Appendix 2 includes the entire ATC and is an example of an ATC that does not necessarily directly reduce cost but its effect can indirectly affect cost by significantly reducing schedule and reducing environmental impacts.

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Table 3

SC 41 Bridge Replacement over Wando River (Berkeley and Charleston Counties) Daily Cost of Project - \$7,500/day				
Contractor	Description of ATC	Estimated Cost	Schedule Impact	Approved/ Disapproved
Archer	Seismic Dampers	N/A*	None	No ATC needed
Archer	Access Road Re-alignment	(\$2,000,000)	None	Approved
Archer	Alternative Load Test	(\$20,000)	None	Approved
Archer	Elimination of Access Road	(\$1,800,000)	None	Approved
PCL	Flat Slab Bridge	N/A*	None	ATC Abandoned†
PCL	Access Road Re-location	N/A*	None	Approved
PCL	Lightweight Concrete	N/A*	None	Approved
PCL	Elimination of Anchor Bolts	N/A*	None	Approved
PCL	Property Access Change	N/A*	Positive	ATC Abandoned†
PCL	Alternate Fender System	N/A*	Positive	Not Approved
United	Concrete Alternative	(\$100,000)	(45 days)	Approved
United	Access Rd. Alternative	(\$4,000,000)	(120 days)	Approved
United	Access Rd. Alternative	(\$2,000,000)	(90 days)	Approved

* Contractor indicated both time and cost saving but did not quantify.

† Contractor ultimately abandoned pursuit of this ATC as it was apparent it would not be approved and the effort to convince SCDOT of its effectiveness was not worth the effort in their opinion.

As indicated in the example ATC's provided in Appendix 2 and in the ATC Guidelines in Appendix 1, there are more evaluation measures of an ATC than those tabulated above. The cost and schedule impacts are the most subjective and quantitative measures to evaluate and were therefore chosen over the more subjective, harder to quantify measures.

III. Data Analysis

The primary analysis for this effort will focus on the amount of dollars that bids were actually reduced in the case of successful bidders and the amount of potential reduction that may have been realized had the contractor been successful in his bid. A

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secondary evaluation is the impact on schedule which ultimately translates to dollars in the form of a per day cost of the project which is specified for each project.

In the case of the I-26 project (Table 1), the successful bidder submitted the most ATC's of any of the other bidders and tied with one other bidder for number of ATC's approved. The successful bidder was able to reduce his bid by approximately \$400,000 by implementing the two approved ATC's. That same bidder also devised an innovative method for accessing the median construction zone which reduced the schedule significantly and the combination of the two made for a successful bid.

In the case of the I-95/US 301 project (Table 2), the successful bidder and one other each submitted five ATC's but the successful bidder easily had the highest number of approved ATC's. The successful bidder was able to realize both direct cost reduction and significant schedule reduction through the implementation of these ATC's. At a daily cost of \$7,500/day, a potential 360 day reduction in the schedule translates into a \$2,700,000 reduction in the cost of the project.

In the case of the SC 41 project (Table 3), the successful bidder had the most ATC's submitted and tied with the other two bidders on the number of approved ATC's. An interesting difference in this project and the first two is that the successful bidder provided the least amount of information regarding cost and schedule reductions. A vague statement that the ATC would generate reductions was the only information provided. For future projects, some consideration should be given to a more stringent requirement for bidders

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to provide more specific cost information in their ATC submittal. This requirement would aid evaluators of the ATC and provide SCDOT with better historical data.

There are additional factors that are evaluated when an ATC is being proposed. In addition to an overall justification for the ATC, the following are also evaluated but not quantified as the dollars and time are quantified: an assessment of the environmental impacts, evaluation of potential risk to the SCDOT, overall quality of the materials, long term operation and maintenance cost for the SCDOT.

IV. Implementation Plan

To further track and continue to evaluate ATC's and Design Build, ProjectWise⁶ a paperless document management system will be phased into use for all future design build projects. A function within ProjectWise and one that is crucial to the relevance of this project, is a searchable database that will catalog all ATC's and will be maintained for recordkeeping and research purposes.

a. Action Steps Needed

The first action steps are currently being undertaken as this report is finalized. The group tasked with delivering design build projects for the SCDOT is implementing the use of ProjectWise for the pre-construction phase on the US 701 Bridge Replacement project in

⁶ <http://www.bentley.com/en-US/Products/projectwise+project+team+collaboration/>

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Horry County, South Carolina. The next step will be to create and populate the searchable ATC database.

b. Timeframe and Cost

The phasing in of ProjectWise has already begun and will be completed within the next year. The software and personnel are currently in place therefore the only remaining cost to the agency is the time of the personnel who will be engaged in this ongoing effort. As it will be part of their everyday job duties, no additional costs to the agency are anticipated.

c. Potential Obstacles

Potential obstacles include but are not limited to the following:

- Decreased momentum for the use of Design Build within the agency. The creation of a dedicated group to deliver design build projects has been discussed but as of the present, no action has been taken.
- Loss of support from upper management to continue the payment of stipends. Non-payment of stipends would in turn hinder the use of ATC's.
- Decrease in funding for large projects.

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d. Potential Resources

No additional resources are needed in the short term. In the long term, the SCDOT should continue to pursue the creation of a dedicated design build unit as these projects take a considerable amount of time and effort on the part of SCDOT personnel.

e. Communication with Stakeholders

Stakeholders include the contracting community, both consultants and contractors, SCDOT management, SCDOT Commission and the travelling public. The contracting community is kept informed through the AGC/ACEC Joint Design Build Sub-committee where these and many other topics related to design build are discussed and evaluated. The SCDOT Commission is briefed on mega-projects by SCDOT staff when requested. The travelling public is informed through the SCDOT Design Build website⁷ and through the public involvement process (public hearings) for each project.

f. Integration into Standard Operating Procedure

The integration into Standard Operating Procedure is already taking place. When ProjectWise is used from project inception through construction, the integration will be complete. ATC's are already part of the standard design build process and should continue to be barring any of the obstacles mentioned previously.

⁷ http://www.scdot.org/doing/constructionLetting_DesignBuild.aspx

V. Evaluation Method

As discussed earlier, the harder to quantify aspects of an ATC should be further evaluated and analyzed in conjunction with the data presented in this report. One possibility is the creation of a scoring matrix for the remaining categories much like other parts of the design build procurement are handled. A scoring matrix would allow ProjectWise to categorize ATC's based on their scores and overall quality. The ProjectWise database will be useful for the continued monitoring of the overall program and as a reference as additional projects are pursued and the evaluation of new ATC's is undertaken.

VI. Summary and Recommendations

From a strictly quantitative standpoint, it is apparent that the use of ATC's has had a positive impact on design build project bottom lines and schedules, thus benefitting the taxpayers of South Carolina. The more qualitative, subjective categories have not been evaluated properly to date but should be to fully realize the effect the innovative ideas borne out of ATC's have on transportation projects. Once these innovations are more fully evaluated and understood, the SCDOT can incorporate the most valuable ones into future design build projects, thus freeing the contractors to pursue even more innovative and cost effective designs.

APPENDIX 1

Example of ATC Guidelines

the PROPOSER the opportunity to confidentially discuss the contents of his proposal with SCDOT personnel. Preliminary Concepts may be discussed during the Confidential One-on-One Meetings. SCDOT will determine if questions submitted to or asked at the one-on-one meetings are considered confidential. No additional time will be allowed to research answers. Nothing discussed at the one-on-one meetings shall change the requirements in the RFP. SCDOT will answer the questions at the meeting verbally if possible. Verbal responses are for information only and are not binding. If necessary, written responses that are determined to be of a non-confidential nature will be provided in an addendum to the RFP.

Alternative Technical Concepts

An Alternative Technical Concept (ATC) is a confidential request by a Proposer to modify a contract requirement, specifically for that Proposer, prior to the Proposal due date. The ATC process provides an opportunity for design-build proposals to promote innovation, find the best solutions, and to maintain flexibility in the procurement process. ATC's are evaluated for approval or denial by SCDOT within the deadline set forth in the RFP Milestone Schedule. In order to be approved, an ATC must be deemed, in SCDOT's sole discretion, to provide a project that is "equal or better" on an overall basis than the project would be without the proposed ATC. Concepts that simply delete scope, lower performance requirements, lower standards, conflict with environmental commitments, or reduce contract requirements are not acceptable as ATC's. SCDOT reserves the right in its sole discretion to reject any ATC.

1. Submittal of ATCs:

- a. **Preliminary Concepts:** Preliminary concepts may be submitted that present a description adequate for SCDOT to assess the benefits of the concept. Preliminary concepts may be submitted by email from the Design Build Team Project Manager to the SCDOT Point of Contact and are intended to be an informal inquiry by the Proposer to explore a concept and a quick method by SCDOT to review and comment on potential development of ATC prior to investment of time and resources by the Proposer. Submission of preliminary concepts does not change or extend the submission deadline of formal ATCs. SCDOT reserves the right to ask PROPOSER to clarify its email. If a preliminary concept receives a favorable response from SCDOT, Proposer can elect to submit a formal ATC in accordance with these procedures. A favorable response by SCDOT in no way guarantees that the concept will become an approved ATC. The favorable response may be subject to conditions. **A maximum number of twenty-five (25) Preliminary Concepts may be submitted to SCDOT by the PROPOSER for consideration.** PROPOSER shall be limited to two packages of Preliminary Concepts and the total number of Preliminary Concepts shall not exceed twenty (20). If more than one Preliminary Concept has been received on the same topic, SCDOT has the right to revise the RFP to include that concept as an addendum to the RFP.
- b. **ATC Identification:** ATC will be submitted by the Proposer and evaluated by SCDOT as set forth in the RFP Milestone Schedule. All ATCs shall be

submitted in writing to the Project Manager identified in the RFP with a cover letter clearly identifying the submittal as a request for review of an ATC under this RFP. If the Proposer does not clearly designate its submittal as an ATC, the submission will not be treated as an ATC by SCDOT.

- c. **A maximum number of ten (10) ATCs may be submitted to SCDOT by the PROPOSER for consideration.**

2. Contents of ATC Submittal:

Each ATC submittal shall include one (1) electronic and one (1) hard-copy and shall include the following:

- a. **Description:** A detailed description and schematic drawings of the configuration of the ATC or other appropriate descriptive information (including, if appropriate, specifications, construction tolerances, special provisions, proposed bridge types, product details, and a traffic operational analysis);
- b. **Usage:** Locations where and an explanation of how the ATC would be used on the Project;
- c. **Deviations:** List in table format, all references to any requirements of the RFP or to any requirements of the Contract Documents that are inconsistent with the proposed ATC. Include an explanation of the nature of the proposed deviation and a request for approval of such deviations or a determination that the ATC is consistent with the requirements of the RFP;
- d. **Justification:** Justify use of the ATC and why the deviations from the requirements of the RFP should be allowed;
- e. **Schedule:** Proposed changes to the project schedule if applicable;
- f. **Impacts:** Identify potential impacts on vehicular traffic, safety, community, utilities, right of way and the environment;
- g. **History:** A detailed description of other projects where the ATC has been used under comparable circumstances, the success of such usage, and names and telephone numbers of project owners that can confirm such statements;
- h. **Risks:** A description of added risks to SCDOT and other persons associated with implementing the ATC;
- i. **Costs:** An estimate of the impact of the ATC on the Proposal Price and the ATC implementation costs to SCDOT, FHWA, CONTRACTOR, or other person during construction, maintenance and operations;

- j. **Quality:** A description of how the ATC is equal or better in quality and performance than the requirements of the RFP;
- k. **Operations & Maintenance:** Any changes in operation or maintenance requirements associated with the ATC,

3. Review of ATCs:

- a. Fourteen Day Review: SCDOT will review each ATC submitted within fourteen (14) calendar days of ATC receipt.
- b. More information Needed: If within seven (7) calendar days of receipt of the ATC SCDOT needs more information to determine whether or not the ATC will be approved or not approved, SCDOT will submit written questions to the PROPOSER and/or request a one-on-one meeting in order to better understand the details of the formal ATC.
 - i. **Questions:** SCDOT may submit written questions to the PROPOSER within seven calendar (7) days of receipt of the ATC. PROPOSER has three (3) calendar days to remit answers. Within four (4) calendar days of receipt of the answers, SCDOT shall respond to the ATC.
 - ii. **One-on-One Meetings:** ATC meeting may be scheduled by SCDOT within seven (7) calendar days of receipt of the ATC. One-on-one meeting(s) may be scheduled to fully understand the details of any formal ATCs. These meetings will be restricted to those persons involved in the review of the ATC and limited to discussions of the PROPOSER'S ATC approach. The purpose of this meeting is to discuss the proposed changes, answer questions, and other relevant issues. Verbal responses are for information only and are not binding. Nothing stated at any ATC meeting(s) will modify the RFP or Contract documents. SCDOT reserves the right to disclose to all PROPOSERS any issues raised during the ATC meeting(s), either in the Final RFP or in an addendum. However, SCDOT will not disclose any information pertaining to an individual PROPOSER'S ATCs or other technical concepts to other Proposers. SCDOT will issue a written response to PROPOSER regarding its ATC.
- c. No Response from SCDOT: If the PROPOSER does not receive correspondence from SCDOT within fourteen (14) calendar days of SCDOT's receipt of the ATC, the ATC is deemed rejected by SCDOT, unless written notification to extend this period is given by SCDOT. No ATC shall be included in the proposal unless approved by SCDOT in writing prior to the proposal submission deadline.
- d. **Conditional Response by SCDOT:** If SCDOT issues a conditional answer; an additional 14 days are added to the Fourteen Day Review

period. 7 days for PROPOSER to respond to the condition, and 7 days for SCDOT to submit its final response to the ATC.

4. Determination of SCDOT

- a. SCDOT will make one of the following written determinations with respect to each properly submitted ATC:
 - i. The ATC is approved, in its entirety or in part;
 - ii. The ATC is not approved;
 - iii. The ATC is not approved in its present form, but may be reconsidered for approval upon satisfaction, in SCDOT's sole discretion, of certain identified conditions that must be met or certain clarifications or modifications that must be made by PROPOSER. The PROPOSER shall not have the right to incorporate this ATC into the Proposal unless and until the ATC has been resubmitted within the time limits in the RFP, with the conditions, clarification and modifications satisfied, and SCDOT has unconditionally approved the revised ATC; or
 - iv. The submittal does not qualify as an ATC but appears eligible to be included in the Proposal without an ATC (i.e., the concept appears to conform to the basic configuration and to be consistent with other contract requirements).
 - v. The ATC is deemed to take advantage of an error or omission in the RFP, or other documents incorporated into the contract by reference, the ATC will not be considered, and the RFP will be revised to correct the error or omission
 - vi. More than one formal ATC has been received on the same topic and the Department has elected to exercise its right to issue an addendum to the RFP to include that topic.
- b. Once an ATC has been approved, only the entire ATC is eligible for inclusion into the Proposal. The inclusion of partial ATCs into a Proposal is not allowed, unless the individual ATC's have received separate approval by SCDOT
- c. Each PROPOSER, by submittal of its Proposal, acknowledges that the opportunity to submit ATCs was offered to all PROPOSERS, and waives any right to object to SCDOT's determinations regarding acceptability of ATCs.

5. Incorporation into Proposal

- a. A PROPOSER has the option to include any or all approved ATC's in its Proposal. If SCDOT responded to an ATC by identifying conditions for approval, PROPOSER may not incorporate such ATC into the Proposal unless all conditions have been met. Copies of SCDOT's ATC approval letters for each incorporated ATC shall be included in the Proposal.

Proposals with or without ATC's will be evaluated against the same technical evaluation factors set forth in the EVALUATION OF PROPOSALS section, and the inclusion of an ATC, including an ATC that provides technical enhancements, may or may not receive a higher technical rating. SCDOT approval of an ATC shall not be considered a guarantee that the proposal incorporating the ATC will be selected. SCDOT's rejection of an ATC will not entitle the proposer to an extension of the Proposal submission deadline on the Milestone Schedule or claim for additional costs or delays, including development costs, loss of anticipated profits, or increased material or labor costs.

- b. The Proposal Price should reflect any incorporated approved ATCs.
- c. Except for incorporating approved ATCs, the Proposal may not otherwise contain exceptions to or deviations from the requirements of the RFP.

6. Value Engineering

An approved ATC that is not incorporated into the proposal will not be considered a pre-approved value engineering change.

7. Abandonment of ATC by PROPOSER

If the approved ATC is abandoned by the PROPOSER, is unable to obtain required approvals, is otherwise proved to be infeasible, or fails to be constructed for any reason, the successful PROPOSER is obligated and required to complete the project utilizing the original RFP design and scope requirements at the awarded cost, and shall be responsible for any redesign costs.

8. SCDOT's use of Concepts Contained in an ATC

SCDOT expressly reserves the right to adopt and use any ATC, approved or disapproved, by the successful PROPOSER on this contract or other contracts administered by SCDOT. By submitting a Proposal, all unsuccessful PROPOSERS acknowledge that upon acceptance of the designated stipend, all approved or disapproved ATC's may be included in this contract or other contracts administered by SCDOT and shall become the property of SCDOT without restriction on use. Prior to contract execution, limited negotiations may be conducted as necessary to incorporate the ideas and concepts from unsuccessful PROPOSERS provided a stipend is accepted by the unsuccessful offerer.

9. Proposer Obligations.

The successful PROPOSER, in addition to performing all other requirements of the Contract Documents, shall:

- a. Obtain and pay the cost of obtaining all required approvals including approvals required to implement any approved ATC(s) incorporated into the Contract Documents;

- b. Obtain and pay the cost of obtaining any third party approvals required to implement any approved ATC(s) incorporated into the Contract Documents; and
- c. Unless otherwise noted in the Contract, be responsible for all costs and/or delays of any nature associated with the implementation of any approved ATC incorporated into the Contract Documents.
- d. Should SCDOT revise the RFP after a formal ATC has been approved, be solely responsible for reviewing the RFP and determining if the ATC deviates from the revised requirements. If required, the Proposer must submit a request for approval of all additional variances required within seven (7) calendar days of receipt of the revised RFP.

Stipends

By submitting a Proposal in response to the RFP, the PROPOSER acknowledges the following:

- A. It is the intent of SCDOT to award a stipend of \$200,000.00 to each responsible and responsive PROPOSER subject to the terms of the Stipend Agreement set forth in ARTICLE XIII of the RFP.
- B. PROPOSERS shall indicate on the Stipend Acknowledgement Form in Section XII to the RFP whether it elects to receive a stipend. The Stipend Acknowledgement Form shall be signed and returned with the unsealed Technical Proposal. The Stipend Acknowledgment Form will not count against the specified page limit.
- C. If PROPOSER elects to receive a stipend, the Stipend Agreement shall be signed by PROPOSER and submitted as part of the unsealed Technical proposal. The Stipend Agreement will not count against the specified page limit.

Proposal Submittal

Proposals must be received by the time and date given in the Milestone Schedule. Deliver TEN (10) printed and bound copies and one (1) electronic PDF (CD) copy of the Technical Proposal and one (1) sealed, printed copy of the Cost Proposal to:

Jeff Elliott, P.E.
Contract Administration Engineer
South Carolina Department of Transportation
955 Park Street, Room 333
Post Office Box 191
Columbia, South Carolina 29202-0191

APPENDIX 2

Sample Alternative Technical Concept Submittals

ATC Memo

To: SCDOT	
From: Lane Construction Corporation	Project: 38.036984, Orangeburg County
Date: May 15, 2013	

**RE: Formal Alternative Technical Concept (ATC)
ATC No. 1: Reduction of 8' Flush Median and Removal of 4' Raised Concrete Median Within the Interchange Limits**

DESCRIPTION

The Lane Team proposes an ATC to maintaining the 8' flush median and 4' raised concrete median within the interchange area. Team proposes to reduce the flush median within the interchange limits of the I-95/US 301 Partial Cloverleaf to 4 feet flush median and no raised concrete median.

USAGE

This ATC would only be used within the functional limits of the Partial Cloverleaf interchange as described in Addendum #1.

DEVIATIONS

Page 6 of Exhibit 4a of Addendum #1, Section 7 Median Design allows for the design of an 8' flush median within the interchange area consisting of 4' raised concrete median and 2' paved offset from edge of travel in each direction. This proposed ATC is inconsistent with this requirement, and the Lane Team requests a variance from this requirement.

Final RFP (Location and Page #)	Deviation
Exhibit 4a, Section 7, Addendum #1, Median Design <i>"A minimum 8' flush median is allowable in the interchange area along US 301/SC 6 Connector. Flush medians less than 15' shall contain a 4' raised concrete median with a minimum 2' paved offset from the edge of traveled way."</i>	ATC will not maintain the 8' total median width or the 4' raised concrete island. The Lane Design-Build Team requests approval of this ATC to provide an alternative median.

JUSTIFICATION

The Lane team has evaluated the draft concept plan provided by SCDOT in addition to the RFP requirements.

The reduction in median width from 8' to 4' is consistent with the allowable flush median width described in the Highway Design Manual, Section 21.2.6 Medians "Where there is insufficient room for a TWLTL or where a TWLTL is considered unnecessary, the designer may want to consider providing a painted flush median that may range from 4 to 12 feet". Providing this median width would further simplify and reduce maintenance of bridge deck while providing positive separation between opposing traffic.

Allowing this ATC offers the Lane Team the opportunity to provide an equal design at a reduced cost.

SCHEDULE

The proposed ATC will reduce schedule by 21 days.

IMPACTS

- *Vehicular Traffic:* This ATC features no adverse impacts on vehicular traffic vs. the concept provided by the SCDOT.
- *Safety:* This ATC features no adverse impacts on safety vs. the concept provided by the SCDOT.
- *Community Impacts:* This ATC features no different impacts on the community vs. the concept provided by the SCDOT.
- *Utility Impacts:* This ATC features no adverse utility impacts vs. the concept provided by the SCDOT.
- *Right of Way Impacts:* This ATC features no adverse right of way impacts vs. the concept provided by the SCDOT.
- *Environmental Impacts:* This ATC features no adverse environmental impacts vs. the concept provided by the SCDOT.

HISTORY

This ATC does not involve design or other technical concepts which are significantly different in any way from standard SCDOT design; therefore providing examples of past precedent does not appear to be required. This ATC only represents a refinement of the concept provided by SCDOT and is only being submitted to request the variances described in the "Deviations" section above.

RISKS

This ATC does not involve any added risks to the SCDOT or any other entities.

COSTS

- *ATC Implementation Costs to the SCDOT:* This ATC would represent a reduction in costs to the SCDOT by eliminating four feet of bridge deck width, by reducing the total Design/Build project construction costs, and by reducing future inspection, maintenance, and repair costs. The approximate anticipated initial construction cost savings expected if this ATC is approved would be \$400,000. This reflects the reduction of construction of the subject bridge as well as associated reductions in grading, fill, pavement, and engineering costs within the functional interchange limits.
- *ATC Implementation Costs to the Design/Build Team:* This ATC would represent a cost savings to the Lane team; this savings would be passed on to the SCDOT via a reduced bid for this project.

QUALITY

This ATC maintains the number of travel lanes and reduces potential confusion about left turns from US Route 301 onto I-95.

OPERATIONS & MAINTENANCE

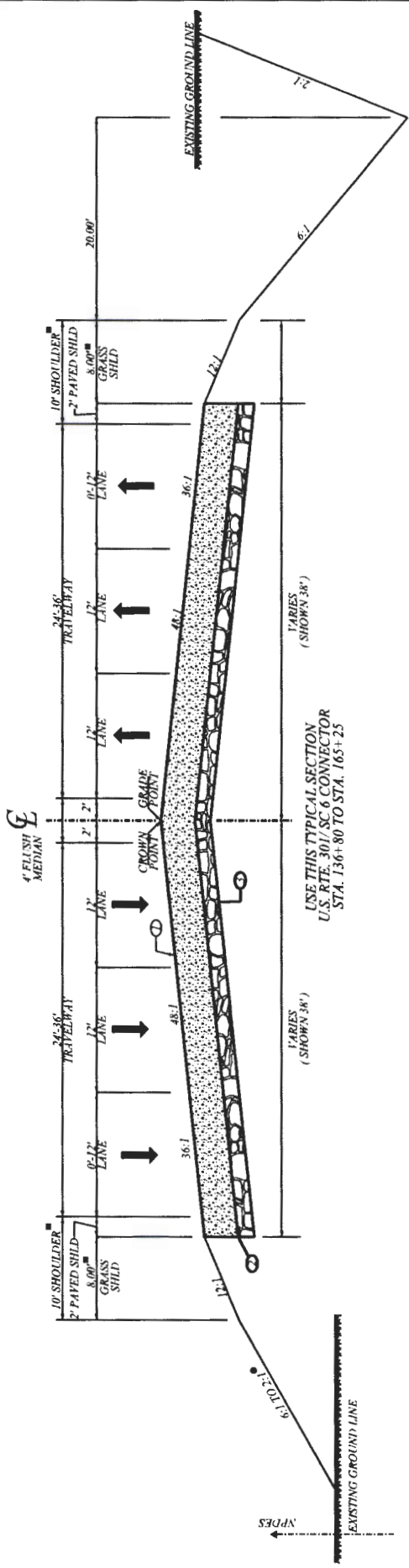
This ATC does not involve any additional operations or maintenance to the SCDOT or any other entities.

ATTACHMENTS

1. Proposed Typical Section within functional interchange limits.

TYPICAL SECTION OF IMPROVEMENT SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION COLUMBIA, S.C.

DATE	BY	CHECKED	APPROVED



USE THIS TYPICAL SECTION
U.S. RTE. 301/ SC 6 CONNECTOR
STA. 1361+80 TO STA. 1651+25

PRELIMINARY PAVEMENT DESIGN

LEGEND

- ① PORTLAND CEMENT CONCRETE PAVEMENT (10" UNIFORM)
- ② FABRIC INTERLIER
- ③ CEMENT STABILIZED AGGREGATE BASE (6" UNIFORM)
- ④ OPEN GRADED FRACTION COURSE (1.0 IN LANS)
- ⑤ HOT MIX ASPHALT SURFACE COURSE TYPE A (200 LANS)
- ⑥ HOT MIX ASPHALT SURFACE COURSE TYPE B (200 LANS)
- ⑦ HOT MIX ASPHALT SURFACE COURSE TYPE C (150 LANS)
- ⑧ ASPHALT SURFACE TREATMENT (TRIPLE TREATMENT) TYPE 1 OR 2
- ⑨ HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B (200 LANS)
- ⑩ HOT MIX ASPHALT BASE COURSE TYPE A (650 LANS)
- ⑪ GRADED AGGREGATE BASE COURSE (6" UNIFORM)
- ⑫ GRADED AGGREGATE BASE COURSE (6" UNIFORM)
- ⑬ MILLING EXISTING ASPHALT PAVEMENT 2"
- ⑭ MILLING EXISTING ASPHALT PAVEMENT 1.0"
- ⑮ EXISTING PAVEMENT

NOTES:

- USE 6:1 SLOPE (10'-5')
- USE 4:1 SLOPE (6'-10')
- USE 2:1 SLOPE (10'-OVER)
- ADD 3.50' WHERE GUARDRAIL IS USED
- NOTE: USE SILT FENCE AT THE TOE OF ALL SLOPES PER STD. DWG. R15-605-00 SEE SEDIMENT AND EROSION CONTROL NOTES NO. 1 AND NO. 2 ON SHEET NO. 3
- NOTE: THIS SLOPE MAY BE VARYED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES. USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY A 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE 6:1 CONTINUING THE 4:1 SLOPE TO PROVIDE FOR THE NECESSARY DEPTH. SEE PROFILE FOR THE SPECUL DITCH GRIDES.

RPH	DESIGN SPEED	
	FROM STA.	TO STA.

FUNCTIONAL CLASS
U.S. RTE 301
RURAL ARTERIAL

THE
HDR
CONSTRUCTION CORPORATION

PAVEMENT DESIGN

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROAD DESIGN
COLUMBIA, S.C.

TYPICAL SECTION

SCALE: 1" = 20'-0"

RTE 786 US 30A



ALTERNATIVE TECHNICAL CONCEPT SUBMITTAL



SC-41 BRIDGE REPLACEMENT OVER WANDO RIVER DESIGN-BUILD PROJECT

Federal Aid Project No. BR88(079)
File Nos. 8.158B & 10.032100
Charleston & Berkeley Counties, SC

ALTERNATIVE TECHNICAL CONCEPT # 3

DESCRIPTION: The PCL Team proposes to utilize lightweight concrete in the bridge deck, sidewalk, and/or railing walls. The lightweight concrete mix will have a unit weight not less than 120 pounds per cubic foot similar to the mix that PCL utilized for the superstructure on the Ben Sawyer Bridge Rehabilitation project. This concrete will have a 28-day compressive strength of 4 ksi.

USAGE: The use of lightweight concrete will be limited to the bridge deck, sidewalks, or railing walls.

DEVIATIONS: The following table summarizes the requirements of the RFP and Contract Documents that are inconsistent with this proposed ATC.

Document & Section	Requirement	Request for Deviation
SCDOT Bridge Design Manual, Section 15.2.1	Figure 15.2-1 specifies that Class 4000 Concrete shall for Bridge Deck and Concrete Bridge Rails.	Allow for the use of concrete with lightweight aggregate to achieve a unit weight of not less than 120 lb/CF and a 28-day compressive strength of 4 ksi. Gradations of the lightweight aggregate will be in accordance with the acceptable gradations specified in Section 701.2.10.4.
SCDOT Standard Specifications for Highway Construction, Section 701.2.12.2	Requires crushed stone or gravel to be utilized as the coarse aggregate in Class 4000 concrete.	

JUSTIFICATION: This proposed ATC will allow for longer bridge spans, reduce foundation loadings, and reduce seismic loadings.

SCHEDULE: This proposed ATC will have no impact on the project schedule.

IMPACTS: This proposed ATC will not adversely impact traffic, safety, community, or utilities.

HISTORY: Lightweight Concrete has been used on several bridges in South Carolina. PCL utilized a lightweight concrete mix on the Ben Sawyer Bridge Rehabilitation project in order to minimize the loadings on the existing substructure elements.

RISK: There are no additional risks associated with this ATC.

COSTS: The implementation of this ATC will reduce construction cost by potentially eliminating a span and/or reducing the foundation and seismic loadings compared to a design utilizing normal weight concrete.

QUALITY: The proposed ATC is essentially equal to the project in accordance with the RFP. The same concrete strength that is required in the RFP will be provided.

OPERATIONS & MAINTENANCE: The implementation of this ATC will not impact operations and maintenance.

Final ATC #2A
(Option A – Most Desirable)

Private Access on the Southern Termini of the Project

This ATC provides an alternative means of access to the east and western private properties on the Southern Termini of the Project.

a. Description

As shown in Figure 1 below, the EA and the Public Hearing Map identified a single access road to Detyens Shipyard parallel to SC 41 providing access to Detyens Shipyard and also to Atlantis Marine via an underpass under SC 41. The EA / Public Hearing Map did not address any access to the Wando River, LLC Tracts with the exception of taking large area of right of way for the widening to the east side of the SC 41.

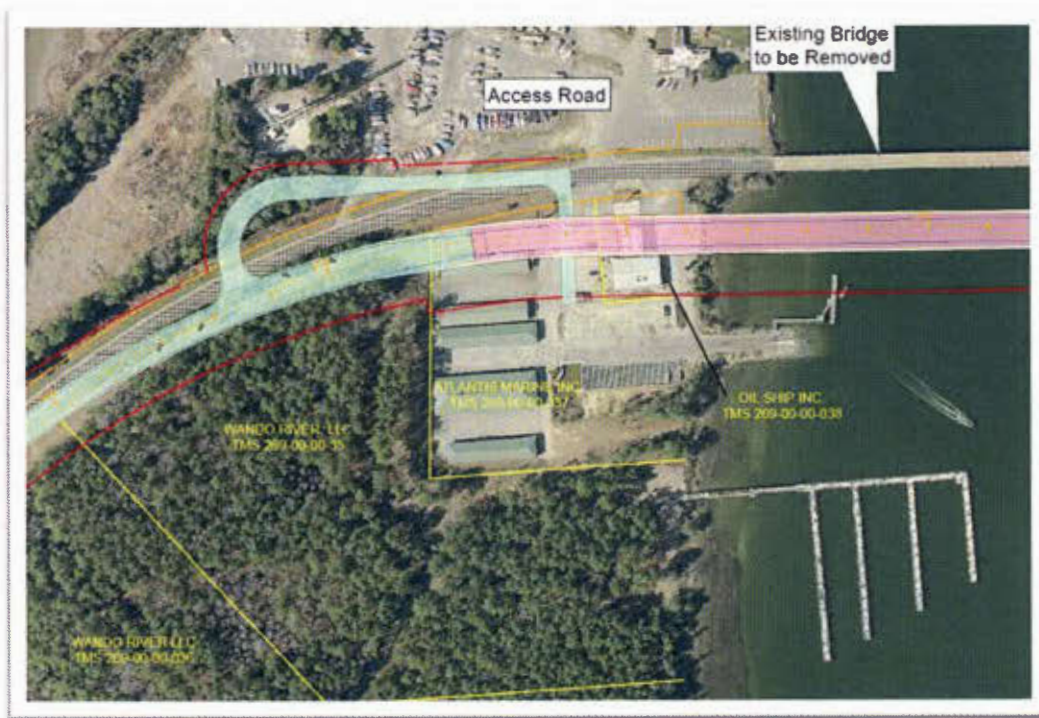


Figure 1 – SCDOT EA / Public Hearing Access Concept

Subsequent coordination with the owners of Atlantis Marine and Wando River LLC tracts by United’s Design and Construction Team (without involving any of the R/W personnel), revealed the following issues and concerns:

- 1) The proposed widening of SC 41 to the upstream side (east) requires the complete taking of the Kangaroo Express gas station / convenient store (owned by Oil Ship, LLC);
- 2) Atlantis Marine would lose two of its boat hangars. In addition, the proposed property access on the west side of the road, using a bridge underpass, required too many maneuvers for boat / trailer traffic , resulting in a much less than desirable access, and likely, requiring payment for business related compensation (loss of business);
- 3) The Wando River LLC current plan of development (shown in Figure 2 below) includes a new marina, marina office, hotel and a “high end” residential and commercial development. With the EA / Public Hearing concept, they would be faced with nearly 73,000 SF of valuable frontage land to be taken at a cost of \$8 - \$10 / SF (\$350 to \$435k / acre);

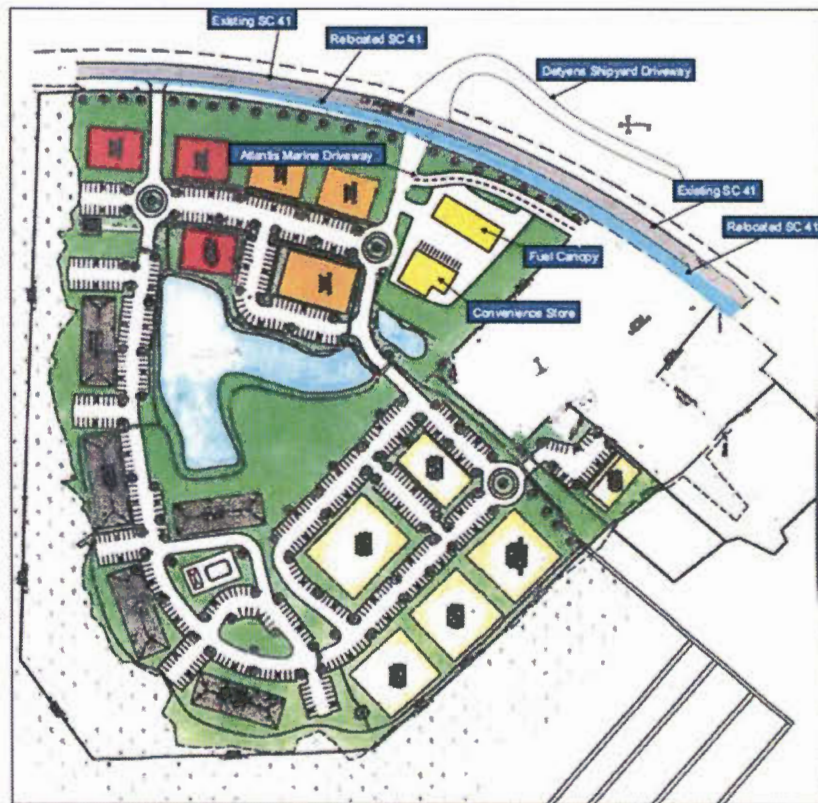


Figure 2 – Wando River LLC Development Plan

- 4) SCDOT will be constructing and maintaining two separate access roads in the new right of way and will be responsible for the long term maintenance of pavement and drainage system serving private properties; and,
- 5) The new SC 41 Bridge is made nearly 300 feet longer than is needed in order to accommodate the underpass access to Atlantis Marine.

In order to address these costly and less than desirable operating conditions, United Team is proposing the following solution:

- a) As shown in Figure 3 below and Exhibits 1 and 2 (attached), we propose to replace the access road with two separate privately owned access driveways, one to Detyens Shipyard on the west of SC 41 and the other to Atlantis Marine to the east of SC 41. With proper and prudent property owner coordination, the access on the west side of SC 41 to Detyens Shipyard can be a designated “driveway” and an additional designated driveway from the proposed Wando River LLC entrance road can be provided to Atlantis Marine. The entrance of the Wando River LLC will be kept at the same location as their existing SC 41 access and the new access to Detyens Shipyard will be aligned on the opposite side of SC 41. Also, a new driveway would be constructed to Atlantis Marine. On the east side of SC 41 approximately 50’ of ROW will be provided and a 5’ high retaining wall constructed. The retaining wall will be constructed a distance of approximately 45 feet from the centerline of SC 41 to allow for a future 5-lane widening with an 8’ shoulder and guardrail without affecting the retaining wall. During the final design phase, United will perform a traffic signal warrant analysis for this intersection. If warranted, a traffic signal will be included in the Project with SCDOT’s approval;
- b) One of the major advantage and significant cost saving feature is the opportunity for a replacement gas station and convenient store on the Wando River LLC Tract, only a few hundred yards away from the existing facility, lessening the cost of right away and business relocation by creating “similar” exposure to commercial traffic currently serving the gas station / convenient store on the Oil Ship, LLC Tract.

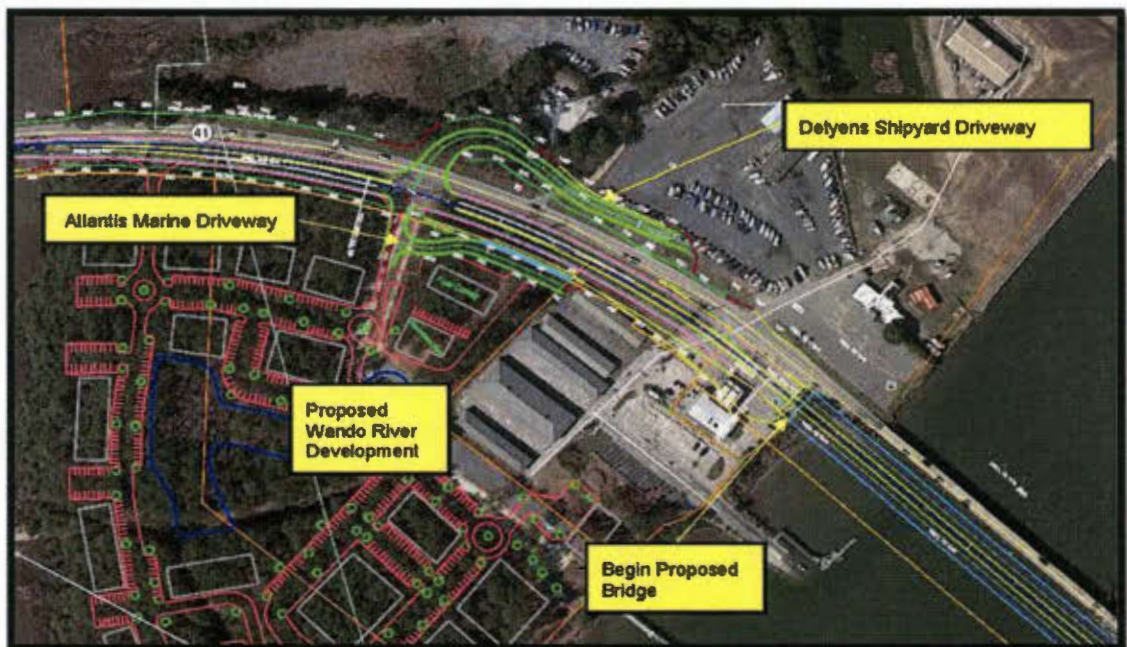


Figure 3 – United Team’s Proposed Solution

c) The SC 41 Bridge will be constructed within 10 feet of the existing SC 41 Bridge to minimize right of way taking on the east side of the SC 41. Additionally, the new SC 41 Bridge will be shortened by approximately 300 feet, as an underpass to Atlantis Marine from the west side of the SC 41 is no longer required.

b. Usage

This ATC would only apply to the access road and driveway on the Charleston County side of SC 41.

C. Deviations

Comparison

	Original in RFP	Proposed ATC
Public Hearing Display	1 Public Access Road	2 privately owned and maintained driveways
Exhibit 4a Section 2	Eliminate need for Access Road Design Criteria	Will only need to meet Design criteria as negotiated with the Property owners

d. Justification

The proposed ATC provide the following advantages to SCDOT and property owners:

1. The overall SC 41 bridge length will be reduced by approximately 300 LF;
2. It provides the opportunity for the convenient store / gas station to be relocated within a few hundred yards of its current location and operate in similar exposure to commercial traffic it currently serves, significantly reducing the cost to SCDOT for business relocation;
3. Improves access to the Atlantis Marine, reduces the right of way taking on both the east side of SC 41 (including one less boat hangar) by approximately 18,000 SF, and accommodates the future Wando River LLC development tract at a more cost effective manner to SCDOT;
4. Eliminates the need to acquire approximately 1 acre of land on the west side of the SC 41 for construction of the “jug handle” and access road to Detyens Shipyard and Carolina Boatyard;
5. As these accesses will become private driveways, there will be considerable cost saving to SCDOT for future maintenance cost for the pavement and drainage system on both the east and west side of the SC 41, as contemplated in the original Public Hearing Map; and,

e. Schedule

Acceptance of this ATC will reduce the overall schedule by 3-4 months by lessening the complexity of the right of way negotiation and constructing 300 feet of less bridge.

f. **Impacts**

There will be less property impacts to adjacent property owners on the south side of the Project in comparison to the EA / Public Hearing concept. There will be no additional utility or environmental impacts. We will accommodate safe, improved and efficient traffic flow for the boaters using the only landing facility (Atlantis Marine).

g. **History**

Providing private access to private property is routinely accomplished in previous projects throughout the State and lessening the impact to property taking and minimizing business damages are prudent project development practices by SCDOT. Additionally a similar scheme of access was originally shown when the bridge was going to be a low level moveable (bascule) span.

h. **Risks**

The SCDOT will take on no risk by approving this ATC.

United will assume all risk in acquiring the appropriate permanent easements from Wando River Development for the driveway to Atlantis Marine and for any NEPA related revisions required. All elements of the Federal Uniform Relocation Act will be followed to acquire the permanent deeded access.

i. **Costs**

a) The direct bid cost savings to reduce the bridge length by approximately 300 LF and replace with appropriate embankment material and to construct the access road will be approximately \$3 Million in United's bid saving;

b) The reduction of the right of way taking on both the east and west side of the SC 41, as well as, taking one less boat storage hangar for Atlantis Marine, will be approximately \$1 Million in United's bid saving; and,

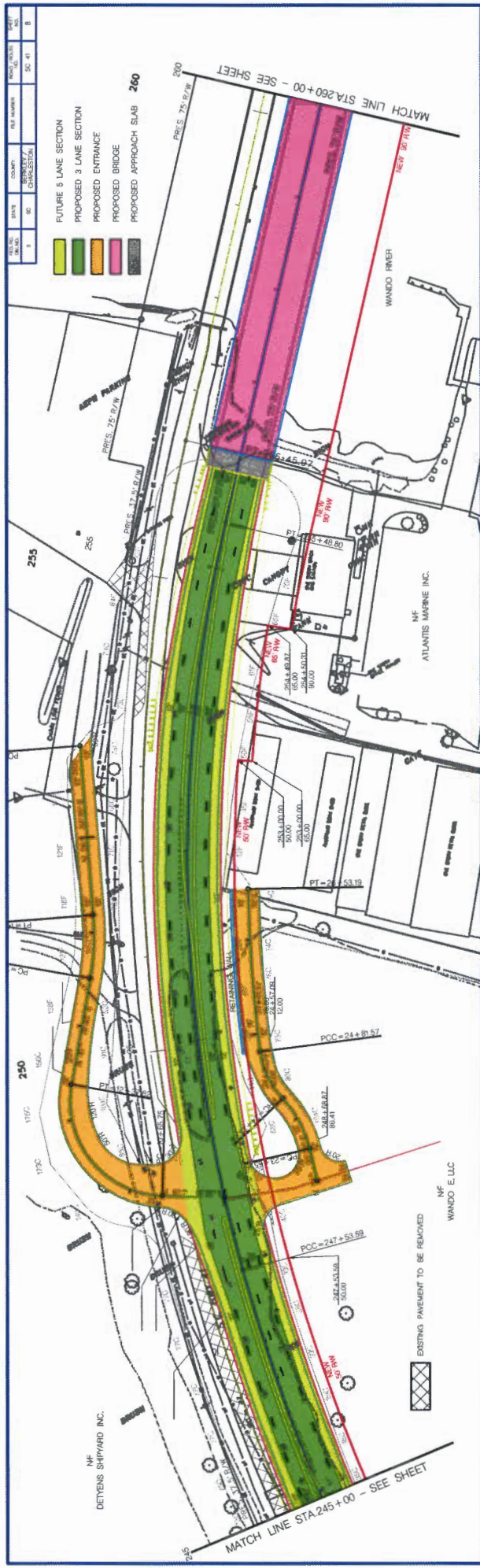
c) Depending on volume of the business and profit history, the cost of the gas station / business relocation damage avoidance and an improved access to Atlantis Marine provided by this ATC would result in a cost saving in the \$1 to \$1.5 million range which will be direct cost savings to the Project and SCDOT.

j. **Quality**

There will be no change to the quality standards of either the design or construction of the Project by this ATC.

k. **Operations & Maintenance**

This ATC will reduce the future maintenance cost to the SCDOT by reducing the overall bridge length by approximately 300 LF and by eliminating an access road which the SCDOT will not be required to maintain.



STATE	COUNTY	PROJECT NUMBER	DATE
FL	DADE	13-28	11/17/2015

- FUTURE 5 LANE SECTION
- PROPOSED ENTRANCE
- PROPOSED BRIDGE
- PROPOSED APPROACH SLAB

<p>TRACKING NO.</p> <p>RESPONSIBILITY ORIGINATOR</p> <p>CHECKED</p> <p>REVISED</p> <p>VERIFIED</p>	<p>DOCUMENT REVIEW</p> <p>NAME</p> <p>DATE</p>	<p style="color: red; text-align: center; font-weight: bold;">PRELIMINARY NOT FOR CONSTRUCTION</p>	<p style="text-align: center;">FUTURE 5 LANE SECTION</p> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">INFRASTRUCTURE CONSULTING & ENGINEERING</p> <p style="text-align: center;">SC 41</p> <p style="text-align: center;">PLAN AND PROFILE SHEET</p>
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I-95 / US 301 Design-Build Project

May 30, 2013 Submittal

Formal ATC #4
(Reference Preliminary ATC Concept #7)

- A. Description:** This ATC proposes to construct a bottomless culvert within the project in order to reduce or eliminate jurisdictional stream impacts. This culvert would be designed to span the existing jurisdictional stream, allowing construction to be completed with no impact to the existing stream.
- B. Usage:** The proposed bottomless culvert would be used in lieu of concrete pipe or a four-sided concrete box culvert. Usage and functions of the culvert remain unchanged.
- C. Deviations:** The ATC will deviate from the plans provided in the RFP which indicate a traditional culvert or pipe be placed in the stream.
- D. Justification:** The bottomless culvert would reduce or eliminate jurisdictional stream impacts and the associated mitigation, for which there are not any existing approved mitigation banks.
- E. Schedule:** This ATC may reduce the project schedule by eliminating the time required for identifying and securing approval of suitable stream mitigation. This time savings could range from 180 to 360 days.
- F. Impacts:** The proposed bottomless culvert will reduce stream impacts and provide improved day lighting conditions within the culvert. There would be no changes in impacts to vehicular traffic, safety, community, utilities, or right of way.
- G. History:** Bottomless culverts have been used on other highway projects to reduce stream impacts.
- H. Risks:** No added risks are anticipated for anyone.
- I. Costs:** This ATC will have little or no impact on project costs as the cost of the bottomless culvert may offset the savings in cost of stream mitigation. This ATC should not affect implementation costs for anyone during construction, maintenance, or operations.



Formal ATC #4 - continued

- J. Quality:** The design and construction of the culvert will meet the requirements in the RFP for quality in design and construction.

- K. Operations and Maintenance:** This ATC does not change any operation or maintenance requirements. Future maintenance cost may be reduced as the opening for the bottomless culvert would be greater than for other traditional culverts and thereby have less risk of clogging from silt or debris.

APPENDIX 3

SCDOT Design Build Best Practices

SCDOT DESIGN-BUILD PROJECT DEVELOPMENT AND PROCUREMENT
BEST PRACTICES MEMORANDUM
September 12, 2012

It is the intent of SCDOT to develop and procure design-build contracts in a manner that is easily understood by and acceptable to the contracting and consultant industry, and in the best interest of the State. To that end, the following design-build best practices have been developed by SCDOT working closely with the Federal Highway Administration (FHWA), the Association of General Contractors (AGC), and the American Council of Engineering Consultants (ACEC) via the joint AGC/ACEC/SCDOT Design-build Subcommittee. To the extent possible, considering all project-related constraints and any unforeseen events, SCDOT will attempt to utilize the practices listed below in delivering design-build projects.

Best Practices

- I. As a standard practice, design build projects will be procured by the Director of Construction's Office (submittals to the SCDOT Contracts Administrator).

- II. As a standard practice, the Department will strive for consistency in the Design Build Process:
 - A. A design build evaluation committee will be assigned by the Deputy Secretary for Engineering for each design build project:
 - i. The ultimate size and makeup of the design build committee will depend on project requirements, but as a general rule each committee will be chaired by a staff member from the Innovative Projects Section (housed in Regional Production Group 1).
 - ii. Each committee will include at least one staff member from each of the following:
 - Director of Construction's Office
 - Director of Preconstruction's Office
 - District Office
 - SCDOT Legal Division (non-voting member)
 - FHWA (non-voting member)
 - iii. The SCDOT Legal representative as well as the FHWA representative, as non-voting members, will serve as advisors to monitor the document development and evaluation processes.
 - iv. Additional voting and/or non-voting committee members may be added as appropriate for each specific project.

- v. The committee chairman will instruct members of the design build committee participating in the evaluation of the requirements for ethical conduct and confidentiality, and ask each evaluator to sign a statement that he/she has read and understands those standards of conduct. If an evaluator has an actual or apparent conflict of interest related to a proposal under evaluation, that evaluator will be removed and replaced with another. If a suitable replacement is not available, the remaining evaluators will perform the evaluation.
 - B. The Innovative Projects Section will maintain all current documents pertaining to design-build projects in order to ensure the tracking and implementation of “lessons learned” from previous design build projects.
- III. As a standard practice, the Department will maintain a Design Build website link that will contain a listing of potential design build projects and schedules. The website link will also include the following information:
- A. Request for Qualifications (RFQ)
 - B. All updates or modifications to the RFQ
 - C. Shortlist Letter including the names of all shortlisted teams
 - D. Bid Opening Date and Location
 - E. Project information (ie. environmental documents, public displays, etc.) available at the time of the RFQ release
- IV. As a standard practice, the Department will utilize a two-step process (RFQ , then RFP) for design build procurements
- A. Request for Qualifications:
 - i. Request for Qualifications (RFQs) will be advertised on-line at <http://www.scdot.org/doing/designbuild.shtml> and in South Carolina Business Opportunities (SCBO), as well as the standard daily newspapers utilized for construction contract advertisements. In addition, an alert box will be added to BID-X notifying interested parties of the RFQ release.
 - ii. When using a 2-step process, SCDOT will short-list the number of DB teams to advance to the RFP stage (no more than 5 and no less than 3 whenever possible).

- B. Request for Proposals:
 - i. Request for Proposals (RFPs) will only be released to short-listed DB teams.
 - ii. The Department will issue an *RFP for Industry Review*. Then after comments/questions are received from the DB teams, a *Final RFP* will be issued.
 - iii. All comments received during the Industry Review phase will be considered by SCDOT. As a result, any changes/revisions deemed appropriate by SCDOT will be incorporated into the final RFP and highlighted so they will be easily identified. DB Teams providing comments during this phase will not receive a separate response from SCDOT.

- V. As a standard practice, the Department will allow confidential meeting(s) with individual shortlisted DB teams, if requested by the DB team in accordance with the Final RFP:
 - A. All teams requesting a confidential meeting shall provide written comments and questions prior to the meeting in accordance with the RFP.

 - B. Responses to confidential questions will be provided by one of the following:
 - i. Confidential response to the specific DB team.
 - ii. Addendum to the RFP released to all proposing DB teams.
 - iii. No response (refer to RFP).

 - C. Confidential meetings intended to facilitate the Alternative Technical Concept (ATC) process.

- VI. As a standard practice, RFQ and RFP submittals will be submitted only to the SCDOT Contracts Administrator in the Director of Construction's Office:
 - A. For RFP responses, The Contracts Administrator will remove the price envelopes and secure them, prior to distributing the proposals to the evaluation committee.

 - B. The review committee will never be in possession of the price envelopes and will only see them when they are opened by the Contracts Administrator at the bid opening.

- VII. As a standard practice, the design build evaluation committee for each project will review and score qualification submittals and proposal submittals based on questions and project priorities as defined in the RFQ and RFP documents. Qualification scores will then be used to assist in defining the appropriate shortlist and Proposal scores will be used to assign quality points as defined in the RFP.

- VIII. As a standard practice, the Department will conduct a bid opening for design-build price proposals. The Bid opening will be open to interested parties and will follow bid opening procedures and analysis as detailed in the RFP and the SCDOT Bid Review Policies and Procedures document. In addition, SCDOT will advertise the bid opening date on the Design Build Website.
- IX. As a standard practice for federally funded projects, the Department will seek FHWA concurrence at various stages of procurement:
- A. RFQ document and release
 - B. Shortlisted teams - After the shortlisted teams are selected, a memorandum will be sent to FHWA for written concurrence of the shortlisted teams.
 - C. RFP document and release
 - D. Award – Once proposals have been scored, bids have been opened, and SCDOT decides to proceed with award, a letter will be sent to FHWA requesting concurrence in awarding the contract. FHWA will provide written concurrence in the award prior to an award notification and contract execution. If SCDOT determines it is appropriate to reject all proposals or issue a *best and final offer* (BAFO), SCDOT will seek FHWA concurrence prior to proceeding.
- X. As a standard practice, the Department will conduct debriefings, when requested by the design-build team, as follows:
- A. RFQ debriefings for non-shortlisted teams will occur after the shortlisted teams are named.
 - B. Debriefings for shortlisted teams will occur only after a design-build contract has been executed.
- XI. As a standard practice, the Department will pay stipends only when approved specifically for the project. When approved for a project, stipend amounts will be set in accordance with **23 CFR 636.113** and will only be paid to eligible unsuccessful shortlisted proposers. No stipends will be paid for submitting RFQ responses.
- XII. As a standard practice, the Department will attempt to include, at a minimum, the following in the RFP information package:

- A. Hierarchy of documents
- B. Surveys
 - i. SCDOT will provide primary survey control and take the risk for primary survey control errors.
- C. Pipe Inspection Data
- D. Geotechnical data
 - i. Within the anticipated limits of a bridge, borings will be provided at intervals of approximately 100 feet. A minimum of two borings will be provided at each bridge site.
- E. Environmental:
 - i. All available environmental documents
 - ii. Typically, permit responsibility will be the DB teams with submittals through SCDOT. Or, for permits handled by SCDOT, dates will be provided when the DB team may assume the permit will be received.
- F. Design Criteria:
 - i. Design speed, functional class, and traffic volumes
 - ii. Pavement design
- G. Design Plans will be provided as information only, based on environmental document type:
 - i. For CE's – design sufficient to obtain the CE
 - ii. EA/FONSI – 30% plans
 - iii. EIS/ROD – 60% plans
 - iv. All plans for information only.
- H. Hydraulic Information
- I. Utility Information

XIII. As a standard practice, SCDOT will attempt to streamline DB submittal reviews:

- A. SCDOT will minimize duplicate comments or any comments outside of the scope of the RFP/Contract.
- B. SCDOT will require the DB team to submit a proposed design review submittal schedule identifying type and dates of all proposed submittals for SCDOT approval.

- C. Once the DB team review submittal schedule is approved, it will be updated on a monthly basis.
 - D. SCDOT will require the DB team to use an electronic based submittal process, with hardcopies as requested.
 - E. In order to assist with shortened reviews on subsequent submittals, SCDOT will require the DB Team to include highlighting or colored bubbles around any changes or revisions from previous submittals.
- XIV. As a standard practice, SCDOT and the Design Build Team will utilize Issue Papers (IP's) to track modifications to the RFP and / or scope of the project.
- A. An Issue Paper will be used to track the modifications to the RFP and / or scope contract. These issues may include:
 - i. Changes in project scope (lane widths, design speed, clear zone, pavement designs, etc.)
 - ii. Changes in referenced RFP documents (design manuals, publications, supplemental specification, etc.)
 - iii. Changes in contract requirements (liquidated damages, completion dates, seasonal restrictions, A+B calculations, etc.)
 - B. Each IP will be individually numbered and tracked. A spreadsheet will be generated to track the IP and any costs associated with each.
 - C. Concurrence for Issue Papers will be required from both parties:
 - i. SCDOT concurrence - drafts of the IP are sent electronically to obtain concurrence from the DCE, FHWA, DOC, SCDOT design engineer (depending on issue), and the RPG (for funding if needed).
 - ii. Design-Build Team - the project manager must sign off on the Issue Paper or reply with his concurrence to make the IP a legal contract document
 - D. Upon concurrence, changes to contract requirements may be documented immediately via a change order in SiteManager.
 - E. Design-Build projects are primarily comprised of LS bid items. Once the individual LS item of work is fully complete and no further issues are expected, a change order may be processed incorporating all costs and credits associated with the various Issue Papers.

- F. If required at the completion of the project, a Change Order will be generated in SiteManager in order to document all issue papers as the permanent record for the project modifications.
- XV. As a standard practice, SCDOT and the Design Build Team will utilize Requests for Information (RFI's) to track requests for clarification or interpretation of existing contract requirements:
- A. Each RFI will be numbered and tracked individually. A spreadsheet will be generated to track the RFI numbers, responses and when they were closed.
 - B. The RFI will remain open until the issue has been addressed and answered.
 - C. An RFI response may result in an Issue Paper being submitted if the resolution results in a change or modification to the RFP as noted above. However, these are two separate documents and should not be confused.
- XVI. As a standard practice, the use of Alternative Technical Concepts (ATCs) will be considered for all design-build projects. At the discretion of the Department, ATCs will be utilized on a case by case basis where determined to be appropriate and advantageous.