

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

The following is a cumulative list of all questions received from firms by email, fax, or courier. SCDOT's response follows each question.

BIDDERS QUESTIONS

Question 1:

As discussed in the pre-bid meeting, we would like to request the following, if available:

- a) Survey data within the project
- b) Any Cadd drawing files
- c) Channel profile survey data in order to determine depths of water
- d) Environmental survey depicting the wetland boundaries
- e) Backup data for the seismic analysis included with the RFP

Response 1:

The following files are provided in Attachment 1 for the Proposer's use:

- a) *DTM, existing topography, property lines and present right-of-way, (microstation format)*
- b) *Existing utility information (microstation format)*
- c) *Existing Hydrographic Survey file (autocad format)*
- d) *Wetland Survey (microstation format)*
- e) *The following materials/data from the preliminary seismic analysis/design are being made available to the prospective bidders/contactors:*
 - *LARSA model input file ([Ben Sawyer Bridge Preliminary Analysis.lar](#)). This is an executable LARSA file that can be used to run or view the model using the LARSA program.*
 - *PDF file ([Ben Sawyer Bridge Preliminary Analysis-Input and Output 1000 yr.pdf](#)) containing summaries of the following:*
 - *model input geometry*
 - *member and element definitions and connectivity*
 - *section properties*
 - *material properties*
 - *input parameters for linearized soil springs*
 - *member force results for dead load*
 - *member force results for transverse and longitudinal earthquake loading (from linear response spectrum analysis)*
 - *modal frequencies and mass participation factors from eigenvalue analysis**Note that the seismic results in this file are from response spectrum analysis performed for a 1000-year return period event, not the design 500-year FEE.*
 - *DXF file ([Ben Sawyer Bridge Preliminary Analysis-Full model.dxf](#)) that may be used to export the LARSA global model geometry into AutoCAD.*
 - *AutoCAD file ([Ben Sawyer Bridge Preliminary Analysis-Full model.dwg](#)) that shows all model geometry including joint and member numbering.*
 - *Excel file ([Design Spectra - 500 yr - Ben Sawyer Bridge.xls](#)) containing response spectra input for the design 500-year return period FEE that was used for the preliminary seismic analysis.*

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

- *Excel file ([Larsa Final retrofitted model - soil springs and spectra 1000 yr.xls](#)) containing the modified, isolated response spectra input for a 1000-year event (not the design 500-year return period FEE). This modified response spectrum curve was used for preliminary linear response spectrum analysis of the isolated approach spans.*
- *L-Pile files ([PierE.lpd](#) and [PierE.lpo](#)) from L-Pile analysis that was performed during the preliminary design phase. Note that these L-Pile runs were performed using arbitrary unit loads for the purpose of determining soil spring values (p-y curve data) and were not used to determine the lateral capacity of the piles.*
- *PDF files ([Ben Sawyer Bridge Preliminary Analysis-Full model.pdf](#), [Ben Sawyer Bridge Swing Span-1.pdf](#) and [Ben Sawyer Bridge Swing Span-2.pdf](#)) containing model plots showing the overall model geometry and joint and member numbering.*
- *Preliminary time history (ground motion) inputs at bedrock and at the foundation level for the design 500-year return period FEE. These time history inputs are based on preliminary geotechnical and site response analysis. The successful bidder will be responsible for performing his own geotechnical and site specific site response analysis for final design. This work shall include the following steps:*
 - (1) *Selection of appropriate input bedrock time history motions following SCDOT seismic design criteria and procedures,*
 - (2) *Establishing representative site-specific soil/rock columns and the corresponding dynamic properties for each soil/rock layers,*
 - (3) *Performing the dynamic site response analysis, and*
 - (4) *Derive the design soil spectra and time histories for bridge analysis.*

Note that the above data is from the preliminary analysis that was performed to establish a rehabilitation scheme for the bridge, and is provided for reference only. The Contractor shall perform his own analyses in accordance with the requirements given in the Technical Specifications.

Question 2:

As discussed at the pre-bid meeting, please confirm that the installation of isolation bearings will prevent the need for seismic retrofitting of the substructure, provided the weight of the new superstructure does not increase by more than 10%.

Response 2:

The Contractor is required to perform a seismic and conventional (the usual gravity and lateral/longitudinal loads) analysis of the entire bridge during final design for submission and approval by SCDOT. If the approved weight of the bridge (in this case "weight" being the superstructure reactions at each pier) is within 10% of the existing weight, and the approved analysis requires strengthening of the substructure columns, footings, and piles, then SCDOT will pay reasonable costs for substructure upgrades. This does not include costs to modify items such as beam seats to accommodate the new bearings. Should the weight of the spans be more than 10% greater than the existing, any costs for substructure upgrades are solely the Contractor's.

Preliminary analysis, which have been released with Amendment 1, show that the existing substructures have a C/D ratio of greater than 1 for a 500-year return earthquake, assuming a 6-span continuous superstructure that weighs approximately 30% greater than the existing approach spans. Preliminary analyses also indicate that the piers are adequate for conventional dead and live loads with the heavier deck.

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Question 3:

Will the Department provide an approximate date for the Notice to Proceed? This information will affect material pricing, more specifically escalation, for the project, as well as scheduling of work activities in relation to date restrictions provided in the RFP.

Response 3:

The Department will not be providing an approximate Notice to Proceed date. The prices submitted in the proposal are to be good through November 30, 2008

Question 4:

Is the proposer's design to include access to the new fender system, i.e. ladders and platforms?

Response 4:

Yes, the Proposer shall provide for access to the fender system and machinery areas from the roadway deck. The access ways shall meet OSHA requirements. Section 2.9 "Fender System" of Exhibit 3 of the Technical Specifications will be modified in Addendum 1 to include this (see Attachment 1).

Question 5:

Please clarify the following mechanical Technical Specification requirements:

5a) Article 4.2.2 states "Each Wedge Assembly shall have an individual electric actuator for pulling & driving the wedge". The existing machinery is driven by one centrally located motor (7.5 HP), that is connected to the six wedges by a series of linkages and shafting. Please confirm the proposer is to detail individual electric actuators for each wedge assembly.

Response 5a):

The proposer is to detail individual electric actuators for each wedge assembly.

5b) Article 4.2.3 states "Span Locks shall be provided at each end of the swing span the lock bar operator shall include each motor and brake, reduction.. .. etc". The existing bridge configuration has a centering device driven off of the wedge shafting. Please confirm if the existing centering device is to be replaced in-kind, or if span locks are to be provided.

Response 5b):

The existing centering device is not to be replaced in kind. Span locks are to be provided.

Question 6

The Technical Specifications for mechanical components refer to AASHTO, LRFD Movable Highway Bridge Design Specifications; please clarify the following AASHTO requirements:

6a) Article 6.7.5.1 states "For open spur gears, the AGMA gear quality shall be Class 7 or higher...etc." Please confirm if the open spur gears are to meet this requirement.

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Response 6a):

Open spur gears are to meet this requirement.

6b) Article 6.7.5.2 states "Pinions, including rack pinions and motor pinions, should have not less than 18 teeth". The existing pinion is detailed with 14 teeth (sheet M3 of M12). Please confirm if the new pinion is to be detailed with 18 teeth, or with the current 14 tooth configuration.

Response 6b):

The machinery is to conform to the cited AASHTO code. As such, the new pinion should have not less than 18 teeth.

6c) Article 6.7.5.2.2 states "Design for Fatigue Limit State" for new gears. The existing gears were not designed for fatigue, and are significantly smaller than gearing required by code. Please confirm if the new gears are to be designed based on the current AASHTO guideline.

Response 6c):

The machinery is to conform to the cited AASHTO code. As such, the new gears are to be designed based on the current AASHTO code.

6d) Article 6.8.2.1 states "Drive Machinery -There shall be a minimum of two pinions, diametrically opposite, providing equal torque.. etc." The existing machinery is detailed with one drive pinion assembly. Please clarify whether the design is to include two pinions, or whether we are to maintain the single pinion configuration.

Response 6d):

The machinery is to conform to the cited AASHTO code. As such, the design shall include two pinions.

6e) Article 6.8.2.4 states "End Lifts - ... shall lift the ends of the bridge an amount sufficient to produce a positive reaction at each end as defined in Article 2.4.2.2." The existing wedge machinery is driven by one 7.5 HP motor. The 7.5 HP motor, and existing machinery components, will not meet the code requirements of the AASHTO article for end lifts. Please confirm the design is to meet the requirements of this article.

Response 6e):

The machinery is to conform to the cited AASHTO code. As such, the new design shall meet the requirements of this article.

Question 7

7a) Traffic Railing/Typical Section

The typical section specified in the RFP does not provide for traffic railings on the swing span. The addition of crash tested railings inboard of the trusses to the section will widen the swing span resulting in an overall width greater than the fender system.

Fender System Width	=37'-4"
Roadway	= 28' -0"
Sidewalk	= 5'-6"
Brush Curb	=1' -0"

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1

June 12, 2008

Truss Members = 1'-4" x 2 = 2'-8"
TOTAL = 37'-2" (Not Including Traffic Railings)

There does not appear to be an opportunity to shift the fenders away from the pivot pier due to the close proximity of the rest pier seal to the fender piles.

Without crash tested traffic railings, the trusses are at risk of damage from vehicular impact which is a distinct possibility given the significant impact damage to the existing railings (i.e. the existing 10" high brush curbs do not adequately provide protection of the railings.) Furthermore, without traffic railings inboard the trusses, motorists are at risk due to snag hazards presented by the truss members. The EA includes a computer rendering of the bridge (Figure 4.11-1) that shows the traffic railing extending across the swing span. Is it the intent to have a traffic railing on the swing span similar to the approach spans?

Response 7a):

First, let's review the existing bridge width:

<i>Center-to-center truss</i>	<i>34'-0"</i>
<i>Truss cover plate width</i>	<i>1'- 6 ½"</i>
<i>TOTAL</i>	<i>35'-6 ½"</i>
<i>Half Width</i>	<i>17'-9 ¼"</i>

During conceptual engineering, the new bridge was made wider, but the centerline of the old and new roadway are in the same position. Since the new bridge will have an unsymmetrical cross-section, the new center pivot WILL NOT be under the centerline of the truss. On the new bridge, the 34'-6" dimension shown on the "Structures Typical Section" in "Exhibit 1 – Scope of Work" should be from inside to inside of railing. The correct dimension string should be:

<i>Truss width</i>	<i>1'-4" (from the question above)</i>
<i>Air gap</i>	<i>0'-1"</i>
<i>Rail</i>	<i>0'-10"</i>
<i>Brush curb</i>	<i>1'-0"</i>
<i>2-14' travel lanes</i>	<i>28'-0"</i>
<i>Sidewalk</i>	<i>5'-6"</i>
<i>Rail</i>	<i>0'-10"</i>
<i>Air gap</i>	<i>0'-1"</i>
<i>Truss width</i>	<i>1'-4"</i>
<i>TOTAL</i>	<i>39'-0"</i>

The conceptual plans were developed assuming that we are maintaining the existing ROADWAY centerline location, thus the east (Isle of Palms) side of the bridge extends 17'-3" from the roadway centerline, and the west (Charleston) side of the bridge extends 21'-9". The existing bridge opens clockwise (the west, or

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Charleston side of the bridge ends up facing north, towards Mount Pleasant). The new bridge will have to open counterclockwise (the east, or Isle of Palms side will face Mount Pleasant). Since the navigation channel is only between the pivot pier and the Mount Pleasant rest pier, the new bridge should fit within the existing fender locations on that side (existing bridge 17'-9 1/4" versus new bridge 17'-3"). The fender location on the south side of the pivot pier can be adjusted to protect the wider bridge on the "non-channel" side. Note that access stairs/ladders to the Operator's House, machinery, and fenders shall be from the sidewalk side of the span. Since this side of the span will face away from the channel (towards Sullivans Island) when the bridge is open, they may hang out beyond the outside of the trusses.

Field survey data indicates that face of the new fender system on the pivot pier can be placed up to about 20'-0" from the center of the pivot pier, while maintaining the 94' wide channel and fender location on the rest pier. The existing face of fender system is approximately 18.15' from the center of the pivot pier.

Keeping the pivot on the roadway centerline will result in a transverse imbalance in the bridge, which may to be corrected through the use of balance blocks, or the placement of components (such as the machinery or control cabinets) in unsymmetrical positions to provide for balance.

7b) If the traffic railings are to be included, will the Department consider alternative typical sections such as moving the sidewalk to the outboard side of the truss to avoid encroachment on the navigation channel?

Response 7b):

No. See response to question above.

7c) The RFP specifically requests that vertical posts of vehicular rails shall meet the TL-3 Criteria. Does this mean that other rail elements and rail geometry need not meet this criterion?

*****Please note that a quick response to this question is needed due to the impact on the swing span design.**

Response 7c):

The steel elements of the railing between posts are to replicate the existing railing, and are not required to meet TL-3 criteria.

Question 8

8a) Channel Closure: The RFP does not specify the duration that the navigation channel may be closed during the replacement of the swing span. Have there been discussions with the US Coast Guard regarding the length of time that the navigation channel may be closed? If so, what duration of channel closure should the design-build teams anticipate in preparing the proposals?

Response 8a):

Specific limitations for channel restrictions have not been established with the US Coast Guard. The Contractor will be required to coordinate with:

*United States Coast Guard
Sector Charleston
Waterways Management Division*

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

196 Tradd Street
Charleston, SC 29401
Attn: LT Calvin Summers
Chief, Waterways Management Division
calvin.summers@uscg.mil
843-720-3273

Prior to allowing any construction that will interrupt normal channel operations, the Coast Guard will establish a special local regulation on this section of the federal waterway to regulating the movement of any vessels not associated with the rehabilitation. In order to establish this regulation, the Contractor will be required to submit a Marine Event Permit (see attachment 1) to the US Coast Guard a minimum of 120 days prior to any construction affecting marine use of the channel. This regulation will establish the restrictions to channel usage, both width and duration.

8b) Can vessel usage of this segment of the Intracoastal Waterway be made available?

Response 8b):

Proposers would have to contact the USCG for this information.

Question 9

Federal Aid/Iron and Steel Products

Please confirm that the provisions of the Article 709.14 (Production of Iron and Steel Products on Federal Aid Projects) that states "all iron and steel products including fasteners and coatings, occurs in the United States" will be enforced on this project and whether these provisions include all movable bridge machinery components. Recently, these requirements have been inconsistently enforced on movable bridge projects.

Response 9:

Article 709.14 applies to this project.

Question 10

Utilities

10a) Please confirm that 480 V electrical-service will be available at the end of the bridge. Please provide the location of the electrical service point

Response 10a):

Location, type and size of the electrical service has not been identified. Contractor is responsible for identifying such. Contact at SCE&G is James Westmoreland, 1277 Chuck Dawley Blvd, Mount Pleasant, SC 29464. Contact number is 843.576.8471.

10b) The agreement requires the contractor to determine if SCDOT has prior rights for the utilities and to be responsible for resolving all disputes. It is unclear what, if any; reason the utility company may have to accept any adverse determination made by a private contractor. It is also expected, however, that any utility located on the existing bridge would not have prior rights. Has the SCDOT determined prior rights for the existing utilities? Please clarify the process for resolving any disagreements with the utility companies?

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Response 10b):

SCDOT has not determined whether prior rights are in place for any of the existing utilities. The Contractor is responsible for Utilities in accordance with Attachment A - Agreement, Section VII, including resolving prior rights disputes. For SCDOT to determine that a utility company has prior rights, the utility company must provide written, legal documentation of such. SCDOT shall have final determination of the utility's prior rights upon review of all documentation provided by the utility.

Question 11

Weight of Bridge

11a) The RFP states that the replacement approach span and swing span superstructures should weigh no more than 10% more than the weight of the existing approach span and swing span superstructures to avoid a more extensive evaluation of the existing substructures and foundations. Please provide the assumed weight of the existing superstructures and substructures so that each design-build team is using the same values in designing the replacement structures.

Response 11a):

Under Section 2.3.1 – Main Truss Swing Span and Section 2.3.2 – Replacement of Approach Spans in the Technical Specifications, the statement “The Contractor may not exceed the existing weight of the span by more than 10% without performing an analysis to verify that the substructure units can handle the additional weight” has been deleted – see revised Technical Specification (attached).

Also refer to Section 1.4.1 of the revised Technical Specification, which states:

“The seismic retrofit scheme for the approaches shall include the use of isolation bearings and (if possible) the elimination of existing intermediate expansion joints in the deck over Piers C and K. All existing bearings on the approach spans shall be replaced with seismic isolation bearings, in order to improve the seismic resistance of the bridge.”

“Because the introduction of isolation bearings and elimination of intermediate deck joints on the approaches changes the way that lateral and longitudinal loads are resisted among the substructure units, the Contractor shall perform a full analysis, including a design check of the piers and foundations, for all applicable seismic and non-seismic loads (refer to AASHTO LRFD Section 3 and Tables 3.4.1-1, 3.4.1-2 and 3.4.1-3).”

11b) Should the weight of any substructure modifications be included with the weight of the superstructure when comparing this weight to the existing? If we elect to retrofit the substructures, what are the Service and Damage Criteria that the SCDOT expects to be satisfied? If Limited Ductility Design is allowed, will ductility demands of 4 be acceptable?

Response 11b):

If the Contractor proposes modifications that would affect the weight and/or stiffness of the existing piers, then this needs to be reflected in the Contractor’s analyses for seismic and non-seismic loads.

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Under Section 2.3.1 – Main Truss Swing Span and Section 2.3.2 – Replacement of Approach Spans in the Technical Specifications, the statement “The Contractor may not exceed the existing weight of the span by more than 10% without performing an analysis to verify that the substructure units can handle the additional weight” has been deleted – see revised Technical Specification (attached).

Also refer to Section 1.4.1 of the revised Technical Specification, which states:

The seismic retrofit scheme for the approaches shall include the use of isolation bearings and (if possible) the elimination of existing intermediate expansion joints in the deck over Piers C and K. All existing bearings on the approach spans shall be replaced with seismic isolation bearings, in order to improve the seismic resistance of the bridge.

Because the introduction of isolation bearings and elimination of intermediate deck joints on the approaches changes the way that lateral and longitudinal loads are resisted among the substructure units, the Contractor shall perform a full analysis, including a design check of the piers and foundations, for all applicable seismic and non-seismic loads (refer to AASHTO LRFD Section 3 and Tables 3.4.1-1, 3.4.1-2 and 3.4.1-3).

The Service and Damage criteria for the 500-year return period Functional Evaluation Earthquake (FEE) shall be as follows (refer to Section 3.2.3 of the SCDOT Seismic Design Specification for Highway Bridges):

Service Level:

- *Maintained: Short period of closure to Public. Immediately open to emergency traffic.*

Damage Level:

- *Repairable Damage: No collapse. Concrete cracking, spalling of concrete cover, and minor yielding of structural steel will occur. However, the extent of damage should be sufficiently limited that the structure can be restored essentially to its pre-earthquake condition without replacement of reinforcement or replacement of structural members (i.e., ductility demands less than 2). Damage can be repaired with a minimum risk of losing functionality.*

Consistent with the Repairable Damage criteria, local member ductility demands μ_D (as defined in Section 4.7.3 of SCDOT Seismic Design Criteria for Highway Bridges) shall be limited to 2 or less.

If the Contractor elects to retrofit the substructures, the Contractor must demonstrate that the capacity of the piles is not exceeded. Displacement-based design utilizing Inelastic Static Analysis (pushover analysis) should be conducted to demonstrate that the piles are capacity protected. Refer to Section 5.2.4 of SCDOT Seismic Design Criteria for Highway Bridges and Section 5.6 of the FHWA Seismic Retrofitting Manual for Highway Structures: Part 1 – Bridges, MCEER-06-SP10.

Question 12:

Bridge Operation and Maintenance

Who will be responsible for operating and maintaining the bridge during the bridge rehabilitation project? If the Contractor is responsible for providing these services, please clarify at what point during the contract the Contractor will take on these services and at what point these services will be turned back over to the

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Department. If the Department is to continue to provide these services during the rehabilitation, what indemnification and insurance provisions will be implemented to protect the Contractor?

Response 12:

SCDOT will provide the bridge operators for the swing span until such time that the contractor begins construction activities on-site. Once the contractor begins on-site construction activities, the contractor will become responsible for the operation of both the existing swing span and the rehabilitated swing span until project has achieved final completion as noted in Section IV.A.5 of the Agreement. Please be aware that this operation is 24-hour 7 days a week

Bridge Maintenance

Once construction activities have begun on-site, Section 107.21 (Contractor's Responsibility for the Work) of the 2007 Standard Specifications for Highway Construction will apply within the project limits. This section is listed below for your reference.

Question 13 (SCDOT)

Estimate

The construction estimates shown in the EA are 2006 estimates. Has the construction budget been revised by SCDOT?

Response 13:

No newer construction budgets are available.

Question 14:

Seismic Reports

The RFP contained an inspection report on the Ben Sawyer Bridge. The Seismic Vulnerability Study was an appendix to that report. Will the supporting material for this study be made available i.e., electronic files of the structural model, L-Pile files, supporting calculations, etc.

Response 14:

The following materials/data from the preliminary seismic analysis/design are being made available to the prospective bidders/contactors:

- *LARSA model input file ([Ben Sawyer Bridge Preliminary Analysis.lar](#)). This is an executable LARSA file that can be used to run or view the model using the LARSA program.*
- *PDF file ([Ben Sawyer Bridge Preliminary Analysis-Input and Output 1000 yr.pdf](#)) containing summaries of the following:*
 - *model input geometry*
 - *member and element definitions and connectivity*
 - *section properties*
 - *material properties*
 - *input parameters for linearized soil springs*
 - *member force results for dead load*
 - *member force results for transverse and longitudinal earthquake loading (from linear response spectrum analysis)*

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

- *modal frequencies and mass participation factors from eigenvalue analysis*

Note that the seismic results in this file are from response spectrum analysis performed for a 1000-year return period event, not the design 500-year FEE.

- *DXF file ([Ben Sawyer Bridge Preliminary Analysis-Full model.dxf](#)) that may be used to export the LARSA global model geometry into AutoCAD.*
- *AutoCAD file ([Ben Sawyer Bridge Preliminary Analysis-Full model.dwg](#)) that shows all model geometry including joint and member numbering.*
- *Excel file ([Design Spectra - 500 yr - Ben Sawyer Bridge.xls](#)) containing response spectra input for the design 500-year return period FEE that was used for the preliminary seismic analysis.*
- *Excel file ([Larsa Final retrofitted model - soil springs and spectra 1000 yr.xls](#)) containing the modified, isolated response spectra input for a 1000-year event (not the design 500-year return period FEE). This modified response spectrum curve was used for preliminary linear response spectrum analysis of the isolated approach spans.*
- *L-Pile files ([PierE.lpd](#) and [PierE.lpo](#)) from L-Pile analysis that was performed during the preliminary design phase. Note that these L-Pile runs were performed using arbitrary unit loads for the purpose of determining soil spring values (p-y curve data) and were not used to determine the lateral capacity of the piles.*
- *PDF files ([Ben Sawyer Bridge Preliminary Analysis-Full model.pdf](#), [Ben Sawyer Bridge Swing Span-1.pdf](#) and [Ben Sawyer Bridge Swing Span-2.pdf](#)) containing model plots showing the overall model geometry and joint and member numbering.*
- *Preliminary time history (ground motion) inputs at bedrock and at the foundation level for the design 500-year return period FEE. These time history inputs are based on preliminary geotechnical and site response analysis. The successful bidder will be responsible for performing his own geotechnical and site specific site response analysis for final design. This work shall include the following steps:*
 - (5) *Selection of appropriate input bedrock time history motions following SCDOT seismic design criteria and procedures,*
 - (6) *Establishing representative site-specific soil/rock columns and the corresponding dynamic properties for each soil/rock layers,*
 - (7) *Performing the dynamic site response analysis, and*
 - (8) *Derive the design soil spectra and time histories for bridge analysis.*

Note that the above data is from the preliminary analysis that was performed to establish a rehabilitation scheme for the bridge, and is provided for reference only. The Contractor shall perform his own analyses in accordance with the requirements given in the Technical Specifications.

Question 15
Public Relations

Can copies of displays, public comments, and any other data from public hearings be made available?

Response 15:

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Copies of public hearing displays and comments/SCDOT responses are provided in Attachment 1.

Question 16:

Material Pricing

Due to the volatility in material pricing, we request an Escalation Clause for the following materials: Steel, Cement, Liquid Bituminous Asphalt and Fuel.

Response 16:

No escalation clauses will be allowed.

Question 17:

Proposal

Section I of the RFP states:

The information obtained under this RFP will become the property of SCDOT without restriction or limitation on their use. SCDOT shall have unrestricted authority to publish, disclose, distribute, or otherwise use in whole or in part any reports, data, or other materials prepared under this RFP. SCDOT shall retain ownership of all plans, specifications, and related documents.

Is this referring to ownership of the information provided by the SCDOT to the proposers or does it refer to the information developed by the proposers and submitted to the SCDOT? Without the payment of a stipend, we believe ownership of the information developed should not transfer to the SCDOT.

Response 17:

This is referring to the information submitted by the proposers to SCDOT under this RFP.

Question 18:

Please provide examples of the types of "justification" the SCDOT would consider allowing certain information to remain proprietary or confidential?

Response 18:

There is not a comprehensive list of examples that would warrant proprietary or confidential status. This will be determined on a case by case basis and the design build team should reference Section 5 on page 13 of the Request for Proposals for guidance on this issue.

Question 19:

What information is permitted to be placed in the appendix and what information must be in the proposal?

Suggested examples of information in the appendix include:

Plans

Detailed and/or additional resumes

SF 254/255

Detailed financial information for prime and subs requested in RFP

Other supplemental information to the information in the technical proposal

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Response 19:

Plans, SF254/255 forms, resume information, and detailed financial information shall be included in the appendix. The Design build team should reference Section 5 on page 10 of 17 for guidance for the location of supplemental information.

Question 20:

Who is considered part of the proposer's team when it comes to financial statements?

Response 20:

Financial statements are required for the entity with whom SCDOT would be contracting with. If this entity is a partnership or joint venture, each firm that makes up the partnership or joint venture is required to submit a financial statement.

Question 21:

One On One Meetings

Will the SCDOT allow a one-on-one meeting for the purposes of asking confidential questions?

Response 21:

SCDOT will not allow one-on-one meeting for the purpose of confidential questions.

Question 22:

Notice to Proceed Date.

In the Request for Proposal, Section IX. Milestones. The Notice to Proceed is noted as "To Be Determined". What date do you anticipate The Notice to Proceed?

Response 22:

The Department will not be providing an approximate Notice to Proceed date. The prices submitted in the proposal are to be good through a November 30, 2008 contract award.

Question 23:

Request for Bid Date Extension.

Due to the complexities in this project, we are requesting a four-week extension of the bid date. The contractor has to design for the means and methods for the access and the temporary support for constructing the new bridge. The moving of the existing bridge off the footprint of the new approach spans is also a technically challenging requirement. The design of the new swing span includes the new swing span steel, decking, mechanical, electrical, controls, as well as the Bridge Tenders House. The floating out of the existing swing span bridge and the floating in of the new swing span also requires careful design and planning.

While we are designing and estimating the bridge work, we have a Technical Proposal due detailing how we anticipate constructing the project. We have a deadline of May 29, 2008 for submitting questions; this does not allow us to time to ask questions that come up during our design phase. With final response from SCDOT due on June 12, 2008, we have two weeks to incorporate final responses in our estimate and Technical Proposal. By allowing an extension of four weeks in the Milestones we will have more confidence that our means and methods will ensure the safest and lowest price for this project.

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Response 23:

The bid date will not be extended.

Question 24

The OCRM permit does not specifically state that work on the trestles must be done during the winter however on the last page of the SCDOT Impact Assessment and in the EA it does state that "temporary impacts to open water habitats associated with the project are scheduled for the winter and will result in no permanent impacts to open water aquatic wildlife." The "Essential Fish Habitat Assessment" states that any expelling of ballast water should be scheduled if feasible between November 1 and March 31 when ichthyoplankton and larval shrimp will be the least abundant. Are there any seasonal restrictions associated with any portions of the scope of work for this project? If so, please clarify.

Response 24: *The Design Build Team is to comply with all requirements as stated in the approved permits, environmental assessment and in Special Provision 9 of the RFP. Coordination with FHWA, permitting and resource agencies should be expected during the project.*

Question 25

Included in the scope of work is the design and construction of a paved parking area to accommodate the bridge tender's vehicle and a maintenance vehicle. Is it the intent of this project to utilize the existing shoulder for this parking area in which case there would be no additional environmental impacts or does the Department desire to have the parking area created by widening the shoulder in which case any additional environmental impacts would need to be added to the permit?

Response 25:

The intent is to pave the existing tender's parking area on the shoulder.

Question 26

In lieu of the "800 vehicles per hour per direction" criteria in the RFP, will the SCDOT provide specific days and times when lane closures are allowed or not allowed?

Response 26:

The Design Build Team should refer to Special Provision 9 regarding the allowance of lane closures.

Question 27

Will the Design-Build Team be responsible for the maintenance and repair of the existing bridge prior to its removal and disposal, especially as it pertains to the swing span and associated mechanical and electrical works?

Response 27:

See the response to Question 12.

Question 28 Question withdrawn – Remove from final version

Response 28:

No response provided

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

Question 29

According to Exhibit 4 - Special Provisions, Section 9, "...no total lane closures are allowed between the dates of April 1st and October 1st, inclusive". Based on the anticipated award date of early October 2008, the first permissible closure window will be completed within 6 months of contract execution. This would require all permit approvals, shop drawing approvals, material procurement/fabrication, trestle/temporary structure installation and preliminary erection to occur within this 6 month timeframe. In contrast, waiting for the October 2009 through April 2010 permissible closure window will require all closure work items to be completed within this closure time period. Thus, we are requesting that a portion of the 7 day closure period be permissible between May 1st and August 1st.

Response 29:

No.

Question 30

Is it the Department's intent to employ a Public Information/Relations Firm (through their CEI as typical for SCDOT projects) as the central contact for project community issues and communication, or is it the Department's intent to transfer this responsibility to the Design-Builder?

Response 30:

The Design Build Team should reference Part II (Public Relations) on page 7 of 17 of the RFP for guidance on this issue.

Question 31

Does SCDOT require clearance gauges on the fender system and lights to illuminate them?
There is no reference to these in the TSP.

Response 31:

Yes. Section 2.9 of the Technical Specifications will be amended to reflect this.

Question 32

The existing bridge has two traffic signals on each arm assembly, oncoming warning gates, and traffic barriers on each side. Should the new design match this configuration? The TSP is not specific on the required traffic control devices.

Response 32:

Yes, they should match existing.

Question 33

Utilizing the radio modem option for controlling devices on the approaches will not provide an emergency power source on the south. If the radio modem system is selected, will an emergency generator be required on both the south and north?

Response 33:

Emergency power will be required for both the north and south ends. The operating requirements for the bridge are such that loss of power on Sullivan's shall not prevent opening the bridge as required. The same requirements as the Mt. Pleasant connection would be required, plus the potential addition of a resistive load bank because the load is so light. Technical provision 4.5 will be revised to reflect this and to provide details

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

for the traffic warning and barrier gates, including the Owner's preference for 240V three phase motors for the gates.

Question 34

What are the specifications for the "SCDOT maintenance radio" referenced in TSP Section 5.1.2 c?

Response 34:

A maintenance radio is not required; the intent was for a marine radio capable of transmitting and receiving on channel 9, 13,16,32 and receiving the NOAA weather channel.

Question 35

Does SCDOT have a standard brake specification and/or a preferred manufacturer?

Response 35:

No, the braking system should be matched to the span weight and speed as well as motor torque.

Question 36

Does SCDOT have standard specifications for a lightning protection system which is required by AASHTO Section 8.13?

Response 36:

No, but the SCDOT does require a system specifically designed for this structure. The system must be equivalent to National Lightning Protection Corporation's S6.6 ESE Air Terminal.

Question 37

Does SCDOT have a specification for the non-potable water tank (including location, size, and provisions for refill) that will be necessary to meet TSP Section 5.1.5 requirements for a hand sink?

Response 37:

No, a system must be designed for this application. Tank size is specified in Exhibit 3 Section 5.1.5

Question 38

Technical Spec 4.1.3 states that "The mechanical systems shall be capable of rotating the bridge 90 degrees in either direction." Is it the intent of this Article to allow the bridge to be opened both 90 degrees clockwise and 90 degrees counter-clockwise at the operator's discretion? If so, which will be the primary direction of opening, as this will affect the control house layout?

Response 38:

Please see the response to Question 7a. The new bridge will have to open approximately 90 degrees counterclockwise ONLY. The existing bridge opens approximately 88.5 degrees clockwise. The Contractor will have to determine the final angle of opening during final design to allow the swing to clear the channel and fit above the new fender system. Section 4.1.3 of the Technical Specifications will be revised to reflect this.

End of Questions and Responses

REQUEST FOR PROPOSALS
DESIGN-BUILD CONTRACT
SC-703 Ben Sawyer Bridge Rehabilitation
Charleston County, South Carolina
Addendum No. 1
June 12, 2008

LIST OF ATTACHMENTS

Attachment 1 – CD with electronic files