

July 9, 2016



GOLDEN GATE BRIDGE  
PHYSICAL SUICIDE DETERRENT SYSTEM  
FEDERAL-AID PROJECT: BHLS-6003(051)  
and  
WIND RETROFIT  
FEDERAL-AID PROJECT: BHLS-6003(052)

Contract No. 2016-B-1

To: Prospective Bidders

RE: **Response to Bidders' Question No. 286 through 306**

Ladies and Gentlemen:

The following are the responses to questions submitted by prospective bidders and designated as Bid Question No. 286 through 306:

**BID QUESTION No. 286:**

55-1.04

The sixth paragraph reads, "Installation of new fasteners requiring field drilling of fastener holes involved with new members connected to new members as shown on the Plans and as directed by the Engineer, is considered as included in the Contract price paid for a Contract Item requiring the installation of these new fasteners and no additional compensation will be allowed therefor."

Please, confirm that installation of fasteners directed by the engineer but not otherwise shown on the contract drawings will be treated as an ordered change or differing site condition and will constitute a change to the Contract as allowed by Section 4-1.05A(2) Ordered Changes.

**RESPONSE:**

*See Addendum 8 for revised Section 55.*

*The installation of new fasteners requiring field drilling of fastener holes involved with new members connected to new members, directed by the Engineer and which are in addition to the field drilling and new fasteners shown and specified will be considered a change and will constitute a change to the Contract as allowed by Section 4-1.05A(2) Ordered Changes.*

**BID QUESTION No. 287:**

15-4.01A(1)

The third sentence of the final paragraph in this section reads, "You must not Cut any existing steel for removal except where the surfaces have been cleaned in accordance with the specified requirements."

Per the project specifications, cutting requires full abatement prior to making any cuts which is above and beyond the governing requirements of Cal OSHA. Please, confirm the Contractor is responsible for the safety of their workers and the public and can develop a work plan that addresses these concerns, without performing full abatement.

**RESPONSE:**

*See Addendum 12 for revised Section 15-4.01A(1).*

*The sentence in Section 15-4.01A(1), Summary, referenced in the bid question above has been deleted. Revised Section 15-4.01A(1) states:*

*"Cutting of existing steel for removal must comply with the requirements by Cal-OHSA, including Title 8 Section 1532.1, for protection of workers and the public. In addition, when cutting existing steel, you must comply with your approved Lead Compliance Plan, your approved Health and Safety Plan and your approved Site Operations and Materials Handling Plan."*

*The Contractor is responsible for the safety of their workers and the public, and must comply the requirements by Cal-OHSA, including Title 8 Section 1532.1. In addition, when cutting existing steel, the Contractor must comply with their approved Lead Compliance Plan, their approved Health and Safety Plan and their approved Site Operations and Materials Handling Plan.*

**BID QUESTION No. 288:**

Attachment J

**Attachment J Equal Opportunity Certification** - The bottom of the form states, in italics, "*The bidder's execution on the signature portion of this proposal will also constitute ...*". The form has blanks at the top only. There is no signature blank. It appears one of the blanks is for the Prime to place their firm name. The second blank appears to be for the "proposed subcontractor".

1. Does this form need to be submitted at the time of the bid (since the second to last paragraph mentions conditions of Award)?
2. Does the Prime take the liberty of completing this form for the subcontractor?
3. Does the Prime's bid get disqualified if the Subcontractor marks "*has not* \_\_\_\_\_ *participated*"?



4. Additionally, it does not appear by marking "*has not participated*" equates to being deficient. It simply states the subcontractor has not participated in a contract under Executive Orders 10925, 11114, or 11246.
5. Based on the interpretation of the form, the Contractor assumes this is not a condition of being responsive low bidder, merely a condition of Award. Please, confirm.

**RESPONSE:**

*There is no signature required on this form. As stated at the bottom of the form, the bidder's signature on the Proposal will also constitute an endorsement and execution of those certifications that are a part of this Proposal.*

1. *Yes, this form needs to be submitted at the time of the bid.*
2. *The form is required for the Prime contractor and for the bidder's listed subcontractors. The bidder may complete the form for their listed subcontractors.*
3. *No, the Prime's bid will not be disqualified if the subcontractor marks "has not participated."*
4. *Marking "has not participated" does not equate to being deficient.*
5. *If the Prime contractor or subcontractors have not previously participated or if they have not filed the reports noted in Attachment J, they must do so prior to being awarded the Contract.*

**BID QUESTION No. 289:**

Builders Risk Insurance

The fifth paragraph of **Section 7-1.0K Builder's Risk / Course of Construction Insurance** begins, "*The District will reimburse you for the actual cost of the Builder's Risk Insurance, excluding any commissions (indirect or direct, including contingent commission compensation)...*"

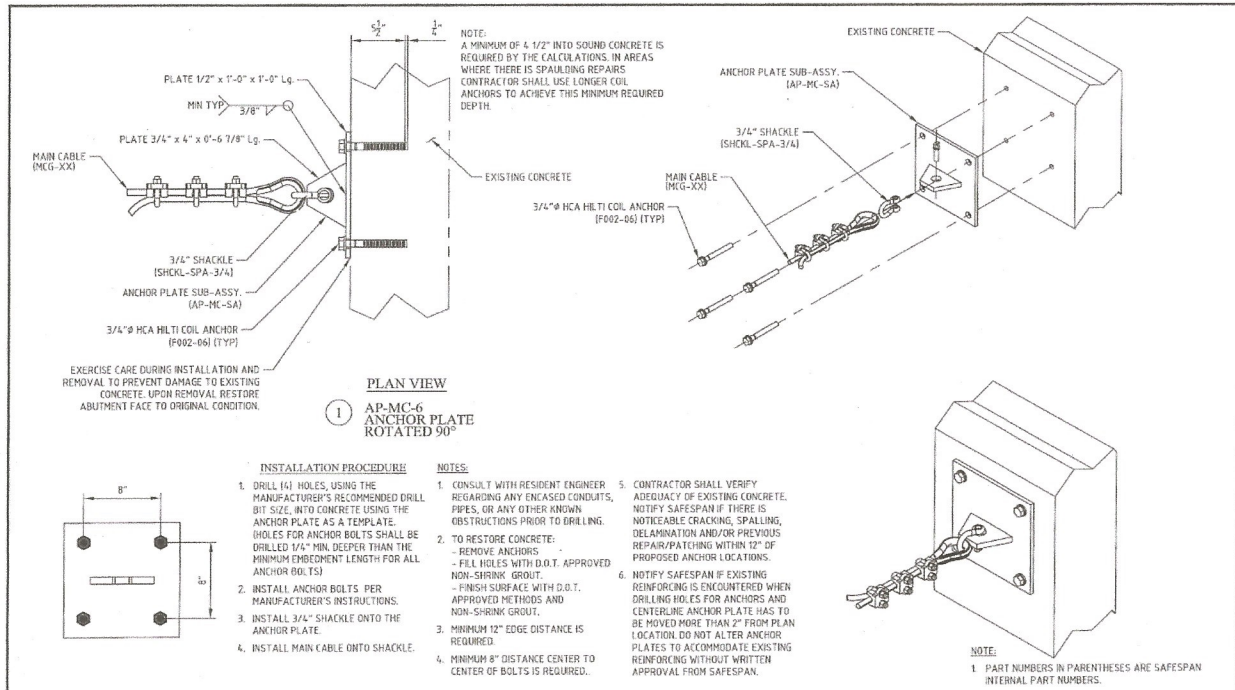
Please confirm the District will pay the invoiced amount. Specifically, if there are administrative, indirect, fees, commissions, or profits from the broker or the insurance company (included in the total, but NOT itemized), these amounts will not be later audited and withheld from payment. The Contractor assumes the full amount invoiced and required to be paid by the Contractor will be reimbursed, as is the industry standard.

**RESPONSE:**

*The District will reimburse the actual premium retained by carrier plus the standard retail and/or wholesale commission expense paid by the carrier to an intermediary broker to secure the required coverage. The District will not allow fees not specific to the placement of the required coverage, or any indirect, or contingent commission. Since this project is partially funded with federal funds, it is subject to audit.*

**BID QUESTION No. 290:**

Can the contractor drill and bolt anchor plates into concrete pylons to anchor temporary platforms? An anchor plate would have 4 each 3/4"x6" anchor bolts which would be removed and the holes filled with epoxy grout. Please refer to the attached drawing.



**RESPONSE:**

*It is assumed that the pylons referred to in the question are Pylons S1 and S2.*

*The Contractor will not be allowed to drill and bolt anchor plates into Pylon S1 and S2 below the sidewalk elevation to anchor temporary platforms.*

**BID QUESTION No. 291:**

Add #5, 60-1.01C1((d) names required documents as SDNS installation work plans. For the installation of tensioned and untensioned net, calculations are required that demonstrate the adequacy of all temporary and permanent net supports to support "all loads applied at each stage of installation".

We understand, that means, every installation step has to be proofed for all load situations. On Z006 design loads are named. These design loads do not name any impact load scenarios. Is the SDNS required to stand an impact scenario during the installation period?

As the impact has different effects and influence in different positions of impact, any impact scenario has to be checked for impact in different positions on the total structural system, representing the realistic behavior and stiffness / stiffness relations of the SDNS System, including the supporting braces etc.



It is only named to proof the supports to be adequate. What is defined as support? Is the clamp for the eye-cable supposed to be a supporting point to be proofed too?  
Does the engineer also require the SDNS members (Net + cables+ connections) to be proofed for all loads scenarios?

As the last step of installation represents the finally ready installed SDNS, we understand it is required to do calculations for that final system as well.

Please define design load: (design mass +size) to be considered as impact scenario.

An impact on the untensioned net areas will cause very special behavior and "sudden" loads on the structure.

Usually these situations have to be proofed too.

Does the district require certain, special proofs here additionally?

**RESPONSE:**

*The SDNS in its final configuration is designed for the loads specified on Contract Drawing Z006. See response to Bid Question No. 285 for values of the Live Load used in the design.*

*The Contractor is responsible to establish values of loads, including impact where applicable, to be imposed by all stages of its SDNS installation operations on Bridge structure, net supports and the SDNS and include these in the SDNS Installation Working Drawings.*

*The net supports, as described in Section 60-1.01, General, are the HSS struts and frames that support the SDNS.*

*The final details shown on SDNS Fabrication Working Drawings shall reflect specific requirements of the SDNS product selected by the Contractor, either X-Tend® Stainless Steel Cable Mesh or INOX-LINE Webnet® Stainless Steel Cable Mesh, because, e.g., the means of attaching the mesh to the border cables or of attaching the eye cables to the border cables may be different for these two proprietary products. The Contractor is responsible to provide in the SDNS Fabrication Working Drawings, the final SDNS geometry, details, and their sizes and dimensions, including hardware assemblies connecting the SDNS to the net supports, the clamps used for the eye cable connection to the border cable, etc. The components of the SDNS product shall comply with Section 60-1.02A(2), SDNS Components and Products.*

*Contractor shall submit the SDNS Fabrication Working Drawings for the Engineer's review and approval in accordance with Section 60-1.01C(1)(a), SDNS Fabrication Working Drawings. The Contractor shall perform all required testing and analysis to provide a complete SDNS.*

**BID QUESTION No. 292:**

Border cable stopper:

In the documents a max. and min. sliding force for the stopper is defined.

The min. sliding force is understood to be the min. sliding force, pulling parallel to a straight cable.

That represents the min. sliding force for all scenarios.

The max. sliding force varies very much, depending on the application of a load and the "sudden" factor.

The difference can be far more than 100%...

Can it be considered to be ok, only to proof the max sliding force, also for parallel pulling of stopper on a straight cable?

Or is it expected to proof a max. sliding force under any possible load situation and application?

If the parallel sliding is proofed to be ok, who has to take responsibility for damages at SDNS or the bridge structure if a unconsidered load scenario would exceed the sliding force and cause damage?

**RESPONSE:**

*The cable stopper shall be tested for the maximum slippage force applied parallel to the straight border cable.*

*See response to Bid Question No. 254.*

**BID QUESTION No. 293:**

Tolerances in geometry and forces are defined in the documents.

S230 shows the SDNS around the tower area.

The mesh geometry is shown as varying between 80° and 45° from the regular 60° net.

The whole area is shown as one piece and the tolerances in the sag of the border cable are defined.

Is for this net also the initial tension force per net cable required, like defined?

**RESPONSE:**

*The geometry of the mesh shown in Detail 1 on Contract Drawing S230 shall be satisfied. The tension forces for the net mesh shall be determined by the Contractor to satisfy the shown geometry of the mesh. See response to Bidder Question No. 257.*



**BID QUESTION No. 294:**

For our work and the preparation of production drawings of the net, a form finding of the whole structure is necessary to ensure the force and geometry in accordance with the calculations.

This will usually be done on basis the onsite measurement and represents the basis of all shop design.

Is the geometry of this form finding process required to be approved by the district?

Can the duration for the approval be considered to be the same as for other documents?

**RESPONSE:**

*In accordance with Section 5-1.26A, Field Measurements, exact field measurements are the Contractor's responsibility and the Contractor is solely responsible for the correct fit of all new construction. Additionally in Section 5-1.26A, Field Measurements, states:*

*"Copies of all documents for field measurements and verifications of existing conditions must be furnished to the Engineer with the corresponding Working Drawings."*

*Section 60-1.03C(3), Coordination, requires the Contractor to coordinate between the SDNS Fabrication Working Drawings and the Net Support Fabrication Working Drawings. This may require further field measurements and verifications after the Net Supports are fabricated and/or installed.*

*The field measurement process does not require Engineer's approval. Engineer's approval is required for the field measurements access system.*

*As stated in Section 60-1.01C(1)(a), SDNS Fabrication Working Drawings, allow 45 days for the Engineer's review of each submittal and re-submittal of the SDNS Fabrication working drawings. Although field measurements and field verifications by themselves are not required to be approved by the Engineer, they must be a part of the SDNS Fabrication Working Drawings submitted for the Engineer's approval. The Contractor is solely responsible for the accuracy of all field measurements.*

**BID QUESTION No. 295:**

As the structural system is only clearly defined with the combination of geometry and forces. As this is important and any calculation of a system, not representing the real geometry and stiffness are not valid it is clear, that tolerances for forces and geometry are named in the documents.

In Add #5, 60-1.03C(4)- Installation, f.e. it is defined, that geometry and direction of the mesh openings must be as shown on the drawings.

On S181 the mesh geometry of the untensioned net is defined with measurements of openings, constant over the untensioned net. .

As the net is not tensioned, this geometry will not be possible to install in an untensioned net like defined.

Please advise...

**RESPONSE:**

*The un-tensioned net opening dimensions shown in Detail 2 on Contract Drawing S181 were intended for fabrication purposes only. It is expected that the openings of the installed un-tensioned mesh will not be uniform.*

*As required by provisions in Section 60-1.01C(1)(a), SDNS Fabrication Working Drawings, the Contractor shall provide fabrication details of the SDNS un-tensioned net for the Engineer's review and approval.*

**BID QUESTION No. 296:**

In Add #5, 60-1.02 the SDNS components are defined with their required breaking strength. On Z006 the relevant standards are named.

In the documents the connections are shown in the details.

An end-connection of a fork terminal in a shackle, like shown on S214 reduces the resistance of the terminal.

If a bold can still be proofed according to the named standards would have to be checked.

Can it be considered to be defined, that any reduction in resistance according to detailing like shown in the documents has been considered for dimensioning the structural members?

Or has the required breaking strength to be guaranteed, including details?

What forces do the details have to be proofed for?

Is an analysis of the whole system required?

**RESPONSE:**

*The SDNS components must satisfy the required breaking strengths specified in Section 60-1.02.*

*The final details shown on SDNS Fabrication Working Drawings shall reflect specific requirements of the SDNS product selected by the Contractor, either X-Tend® Stainless Steel Cable Mesh or INOX-LINE Webnet® Stainless Steel Cable Mesh. The Contractor shall analyze that the SDNS system as detailed on its Fabrication Working Drawings can carry the specified design loads when the SDNS is installed on the Bridge in its final position.*

**BID QUESTION No. 297:**

Add #5, S120 and S122 shows (Det 3 and C) the connection of untensioned net to the bridge. As the untensioned net will not tension the shown cables and may not have the exact mesh geometry, the geometry may vary....?

Distanced to the working line of exist. bottom chord is also defined as well.

Are these distances required minimum distances? To be kept free of net?

Are there other deflection limits?



**RESPONSE:**

*The dimensions shown on Contract Drawing S120 define the distance between the working line of the existing bottom chord and the location of the connector plate, interior border cable connection shown in Detail 2 on Contract Drawing S206 and the WT shown in Section B on Contract Drawing S122, to the existing vertical truss member.*

*The untensioned border cable shall have a maximum vertical sag of 4" at the weather station per Plan 1 on Contract Drawing S120. The untensioned border cable between Panel Points 5 and 7 on the west side of the North Approach Viaduct shall have a maximum vertical sag of 8" in the longitudinal direction and 4" transversely per Detail 3 on Contract Drawing S122.*

**BID QUESTION No. 298:**

The documents show details that are not conformable to the named standards on Z006 and the usual technical standards for cables.

The dimensioning of the structural members is elementary based on the correct analyzed system (representative stiffness with a realistic structural behavior of the SDNS and the supporting steel) and the correct impact simulation.

If the bidder executes the details and structural members like defined in the documents, who is responsible the details and finally the structure?

Who takes responsibility for damages at the SDNS or the bridge?

Does the district require any final calculations of the whole system and the load scenarios?

**RESPONSE:**

*See response to Bid Question No. 252.*

*The final details shown on SDNS Fabrication Working Drawings shall reflect specific requirements of the SDNS product selected by the Contractor, either X-Tend® Stainless Steel Cable Mesh or INOX-LINE Webnet® Stainless Steel Cable Mesh, because, e.g., the means of attaching the mesh to the border cables or of attaching the eye cables to the border cables may be different for these two proprietary products. The Contractor is responsible to provide in the SDNS Fabrication Working Drawings the final SDNS geometry, details, and their sizes and dimensions, including hardware assemblies connecting the SDNS to the net supports, the clamps used for the eye cable connection to the border cable, etc. The Contractor shall provide an analysis substantiating that the SDNS system as detailed on its Fabrication Working Drawings can carry the specified design loads when the SDNS is installed on the Bridge in its final position.*

**BID QUESTION No. 299:**

In the documents min. resistance loads are named (sliding, breaking etc. ).

Please confirm, that these required loads/resistances can be considered under static load.

These loads/resistances do not have to be under "sudden", "dynamic", impact load conditions?

No additional requirements for these "sudden"-loads have to be proofed the elements...

Please confirm...

**RESPONSE:**

*It is correct to assume that no additional requirements for the "sudden" loads need to be proofed for the individual components. The minimum breaking strengths or slippage forces specified in Section 60-1.02A(2), SDNS Components and Products, reflect the published values of the SDNS product listed in Section 60-1, either X-Tend® Stainless Steel Cable Mesh or INOX-LINE Webnet® Stainless Steel Cable Mesh.*

**BID QUESTION No. 300:**

Project Manager submittal verification; 5-1.23A(1)

The first paragraph reads, "Each submittal must bear the approval stamp of your Project Manager, ... that (i) they have determined and verified all field measurements (including resolving all field conflicts), field constraints, materials, catalog numbers and similar data; (ii) they have checked and coordinated each submittal with the requirements of the Contract Documents; and (iii) they have verified that the submittal is complete, ..."

Since the two most recent structural retrofit projects have had nearly 6,000 submittals for each project (this number includes resubmittals), is the expectation for the Project Manger, QCM, and LCE to put their approval stamp on EVERY submittal (QC Reports, action and informational submittals), or will the PM be able to designate an appropriate delegate, based on the PM's discretion?

**RESPONSE:**

*In accordance with Section 5-1.23A(1), Submittal Verification by Contractor, each submittal must bear the approval stamp of the Project Manager, Quality Control Manager and Lead Construction Engineer. The Project Manager will not be allowed to designate delegates for the Project Manager, QCM or LCE to approve submittals at his or her discretion. The Contractor will only be allowed to designate an appropriate delegate for the Project Manager, Quality Control Manager or Lead Construction Engineer to approve submittals for them during their short term absence from the job site due to illness or vacation or other short term absence as allowed by Section 2-1.36B, Contractor's Project Management Team.*

*In accordance with Section 2-1.36B, the Contractor must inform the Engineer in writing of the duration of the Key Member's absence and the appropriate delegate must be approved by the Engineer prior to acting on behalf of the Key Member.*

*Please note that the number of re-submittals depends greatly on the completeness and correctness of each submittal.*



**BID QUESTION No. 301:**

48-3.01A

The first sentence of the third paragraph reads, "Verify as directed by Section 5-1.378 by calculations the structural integrity and capacity of the roadway and sidewalk decks and supporting structures under all loads imposed by your operations in addition to the bridge service dead and live loads."

Please, confirm required extent and limits of the analysis (termination point) for the purpose of establishing the adequacy of existing members for supporting temporary structures. For example, if the members directly supporting the temporary structure are adequate, the analysis will not be required outside of that frame or specific member location. By inspection, the members that support those members (or location being analyzed for adequacy to support a temporary structure) would also be adequate if they were sized using the same methodology.

Please, confirm loads need not be considered all the way to foundation of existing structure.

**RESPONSE:**

*See Addendum 8 for revised Section 48-3.01A and Addendum 11 for revised Section 5-1.37B(1).*

*Calculations and independent calculations for the structural integrity and capacity of the roadway and sidewalk decks and supporting structures must be performed by Engineers registered in the State of California as Professional Civil Engineers in accordance with revised Section 48-3.01A. The Contractor's Engineers must verify the adequacy of all portions of the existing Bridge structures on the load path to carry any additional loads imposed by the Contractor's operations.*

**BID QUESTION No. 302:**

55-1.04B

The third paragraph reads, "Any additional materials furnished, fabricated, delivered to the job site and installed to resolve field conflicts, if not identified in the field measurements and not shown in the working drawings, must be furnished and installed at your expense."

Are field conflicts found at the time of "field measurements" the responsibility of the District?

Are all field conflicts found at the time of installation, the responsibility of the contractor to resolve at his expense?

If these conditions were not identifiable until fasteners or other members are removed (as part of the installation of the new member), please, confirm these conflicts will be the responsibility of the District.

**RESPONSE:**

1. *In accordance with Section 5-1.26, Field Measurements, the Contractor is required to field measure and verify all existing dimensions and conditions required for construction and attachment of all the permanent and temporary work to the existing structures and for proper and adequate fabrication and installation of the work. If during field measurements or verifications the Contractor finds that the existing conditions are different than those shown, the Contractor must submit a request for information (RFI) notifying the District of the existing condition, and proposing a resolution to the conflict. If the Contractor determines that there are cost and time implications associated with the resolution of the field conditions, this information must be included in the request for information and the Contractor must file a Notice of Compensable Change (NOCC) in accordance with Section 4-1.05A(3), Notice of Compensable Change. The Engineer will make a determination regarding the Notice of Compensable Change in accordance with Section 4-1.05, Changes and Extra Work. If the Engineer determines there has been a compensable change, payment for the change will be made in accordance with Section 4-1.05.*
2. *If during installation of a fabricated member, field conflicts are found that are the results of the Contractor not performing complete and accurate field measurements and verification, as stated in Section 55-1.04B, Payment, any additional materials furnished, fabricated, delivered to the job site and installed to resolve field conflicts, if not identified in the field measurements and not shown in the working drawings, must be furnished and installed at the Contractor's expense.*
3. *If during installation of a fabricated member, field conflicts are found that could not have been reasonably found during complete and accurate field measurements and verification, the Contractor must follow the same procedures as stated in Item #1 of this response with regard to submitting a RFI and a NOCC.*

**BID QUESTION No. 303:**

55-1.01A

The fourth paragraph reads, "Perform field measurements and field verifications and resolve all field conflicts prior to submittal of working drawings in accordance with Section 5-1.26. Submittal of working drawings prior to the completion of field measurements and field conflict resolution will be considered incomplete and "Not Approved"."

If field conflicts are found, please, confirm a need for additional effort and/or materials will be treated as a differing site condition per 4-1.06B.

Please, confirm the District will accept the Contractor's proposed resolution of field conflicts, if it does not affect the structural integrity of the structure.

If the District does not accept the Contractor's resolution, please, confirm the time and resources required to resolve these conflicts will be compensated per 4-1.06B.



**RESPONSE:**

*In accordance with Section 5-1.26, Field Measurements, the Contractor is required to field measure and verify all existing dimensions and conditions required for construction and attachment of all the permanent and temporary work to the existing structures and for proper and adequate fabrication and installation of the work. If during field verifications the Contractor finds that the existing conditions are different than those shown, the Contractor must submit a request for information notifying the District of the existing condition, and proposing a resolution to the conflict. The condition is not considered a differing site condition since the Contract Documents inform you that the existing conditions may differ from what is shown on the Drawings.*

*The Contractor must propose its resolution of field conflicts in a Request for Information. In accordance with Section 5-1.42, Requests for Information, the Engineer will review and respond to the Contractor's proposed resolution, and either accept, reject or request additional information regarding the proposal.*

*If the District accepts the Contractor's proposed resolution of a field conflict or provides an alternate resolution, the costs of the time and resources required to resolve these conflicts may or may not be compensable. If the Contractor believes there are cost and time implications associated with the Engineer's resolution of the field conflict, the Contractor must file a Notice of Compensable Change in accordance with Section 4-1.05A(3), Notice of Compensable Change. The Engineer will make a determination regarding the Notice of Compensable Change in accordance with Section 4-1.05(3). If the Engineer determines there has been a compensable change, payment for the change will be made in accordance with Section 4-1.05.*

**BID QUESTION No. 304:**

With regard to Addendum 5, 60-1.04 – Warranty, “Submit a 25-year manufacturer’s warranty for defects in material and workmanship, assuming the District performs periodic inspections and twice a year pressure washing with clean water.

- a. Please clarify if the contractor is held responsible under this warranty for replacing and reinstalling any defective netting within the 25 year life cycle.
- b. Please clarify if the contractor is responsible for coordinating delivery of replacement material from net supplier in the case of defective netting.
- c. Please clarify if the additional netting supplied and stored is considered part of the warranty material
- d. Will the authority accept transference of the warranty from the contractor to the netting supplier?

**RESPONSE:**

*See Addenda No. 12 and No. 14 for revised Section 60-1.04, Warranty, and Section 3-1.03, CONTRACT BONDS.*

*Revised Section 60-1.04 changed the manufacturer’s warranty term for the SDNS to 10 years after final acceptance of the Contract by the Engineer.*

*See Response to Bid Questions 261 and 264.*

- a. The first two years of the warranty period are guaranteed by the Contractor's Performance Bond. Years three through five of the warranty are guaranteed by the Contractor's Warranty Bond. The Contractor must assign the SDNS manufacturer's warranty for defects in the manufacturer's SDNS materials and workmanship to the District for years six through ten of the warranty period*
- b. The Contractor will be responsible for coordinating all work necessary to correct the deficiency during years one through five.*
- c. The additional netting material to be provided by the Contractor is not to be used by the Contractor as material to replace or repair any defective material. This additional netting material is for the sole use by the District.*
- d. As stated in revised Section 60-1.04, Warranty, the Contractor must assign the SDNS manufacturer's warranty for defects in the manufacturer's SDNS materials and workmanship to the District for years six through ten of the warranty period. During those five years, if the Manufacturer's SDNS materials or workmanship is determined to be defective in SDNS elements requiring repairs, the manufacturer's warranty shall cover the cost of furnishing replacement materials and the installation of the replacement materials.*

**BID QUESTION No. 305:**

Protect existing bridge elements

60-2.03D

Specification 60-2.03D Structure Construction, 60-2.03D(1) General, states "***Protect existing bridge elements***, including existing superstructure truss, main cable, suspenders, and existing suspended utilities prior to start of erection."

Please clarify the requirement for protecting existing bridge elements. For an example, consider the scenario of hoisting a 1,000 lb object over the main cable with a crane from the road deck.

1. Is a protective cover required over the main cable?
2. Is the protective cover considered a temporary structure as defined in Section 48-3 and need to be designed to resist the potential impact loading of the 1,000 lb object only?
3. Can the protective cover be supported by the main cable?
4. In-lieu of a protective cover, can additional rigging be used to eliminate the potential for the 1,000 lb object falling during the hoisting operation?

**RESPONSE:**

*See Addendum 6 for revised Section 60-2. Revised Section 60-2.04D(1), General, states:*

*"Protect existing bridge elements, including existing superstructure truss, main cable, suspenders, and existing suspended utilities prior to start of erection."*



1. *The Contractor must assess their operations and determine what type of protection is required to protect existing bridge elements that may be damaged from debris or falling objects due to the Contractor's operations. In the case of hoisting a 1,000 lb object over the main cable with a crane from the road deck, the Contractor must develop protective measures to prevent damage to the main cable. Since the main cable is the primary support for the Bridge, the protective measures must eliminate the possibility of damage to the main cable to the Engineer's satisfaction.*
2. *In accordance with Section 48-3.01A, Summary, temporary protective covers are considered as a temporary structure and must be designed in accordance with Section 48-3, Temporary Structures. In accordance with Section 48-3.01D(3)(b), the design loads used for temporary structures must be adjusted for additional loads imposed by your operations. If a protective cover is meant to protect the main cable from a falling 1,000 lb object, then the protective cover must be designed to withstand that load.*
3. *The protective cover shall not be supported by the main cable. The protective cover must be designed and detailed so that any force from falling objects will be transferred to the truss.*
4. *The District will consider additional rigging as a protective measure to prevent a 1,000 lb object falling onto the main cable during a hoisting operation. The Contractor will need to submit their proposed additional rigging procedures as protection for hoisting objects over the main cable, perform an off-site test of the rigging procedures and obtain the approval of the Engineer for the protection in accordance with Section 5-1.23A.*

**BID QUESTION No. 306:**

**48-3.01D(3)(b)**

The second paragraph reads in part, "The assumed horizontal load to be resisted by the temporary structures... a sum of 40 percent of the total tributary dead load of the structure including the temporary structures plus any horizontal loads from construction operations."

Please, confirm the district has completed this calculation on the existing structure and it is adequate for the potential specified loading (.4g lateral+wind+construction loads).

Please, provide the available safety factor when this load is applied to the existing structure.

If it is found the existing structure is inadequate to resist the loading required to construct this Project, please, confirm any remedial or strengthening work required by the Contractor will be treated as a change to the contract and be compensated in accordance with Section 4-1.06B, or appropriate ordered change section.

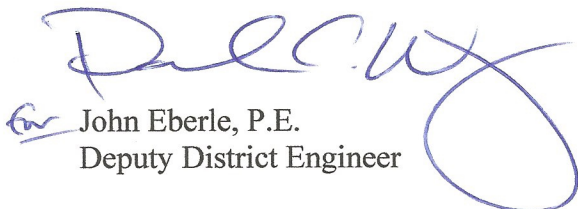
**RESPONSE:**

1. *Note that the Contractor's interpretation of the potential specified loading to be (.4glateral+wind+construction loads) is incorrect. As specified in the Special Provision Section 48-3.01D93)(b), in no case the assumed horizontal load to be resisted in any direction be less than a sum of 40 percent of the total tributary dead load of the structure including the temporary structures plus any horizontal loads from construction operations, which means*

$$F_{horizontal} \geq 0.4(DL_{tributary} + DL_{temporary\ structures}) + F_{construction\ operations}.$$

2. *Please note that the loads imposed by the construction operations, including temporary structures, depend on Contractor's means and methods. The safety factors used by the Contractor shall be consistent with the applicable design and safety codes.*
3. *No, any remedial or strengthening work required to be performed by the Contractor due to the Contractor's means and methods to to construct this Project will not be treated as a change to the Contract. Section 48-3.01A, Summary, requires the Contractor to construct temporary structures, such as temporary supports and bracing, as required to maintain structure stability and integrity of the existing structures during bridge removal and all other stages of construction. Section 48-3.01C(1), General, states that the existing condition of the bridge structure contains corroded, spalled, cracked and deteriorated members. If the Contractor chooses to use existing bridge members as part of the temporary structure, the Contractor is responsible for any repairs of the existing members required to develop the design loading requirements of the temporary structure.*

Sincerely,

  
John Eberle, P.E.  
Deputy District Engineer