

June 2, 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. 178 through 188**

Ladies and Gentlemen:

The following are the responses to questions submitted by prospective bidders and designated as Bid Question No. 178 through 188:

BID QUESTION No. 178:

Please refer to drawing no. S213, details 1, 2 and 3. The detail indicates, "New 3/8" thick lacing to mirror existing lacing spacing, both sides, entire height of column typ.". Please clarify whether the rivets to be remove and replaced are to be included with item 551000G – Remove and Replace Fasteners (Bridge), or are they to be included with item 157567 – Bridge Removal (Portion) Location G.

RESPONSE:

See Addenda 5 and 8 for revised Contract Drawings and revisions to Section 55.

As shown in Details 1, 2 and 3 on revised Contract Drawing S213, the new 3/8" thick lacing bars are installed between the existing lacing bars. There are no existing rivets to be removed and replaced in order to install these new lacing bars. The lacing bars are connected to the columns with new fasteners installed in shop drilled holes in the lacing and field drilled holes in the columns.

There are existing fasteners to be removed and replaced in order to perform the other work shown in Details 1, 2 and 3 for removing and replacing 2 or 3 existing lacing bars on each side. The locations of the existing fasteners to be removed and replaced in these details are depicted by the use of the replace existing fastener with a new high-strength bolt symbol from the Bolt Symbol Legend on Contract Drawing Z006. The work to remove existing fasteners and replacing with a new high-strength bolt is compensated under the Contract unit price for Contract Item 37(F), Remove and Replace Fasteners (Bridge).

BID QUESTION No. 179:

Mill to bear; Det 1 / S333

The detail has a note that reads, "2" PL, CVN Mill to bear on S12 flange."

Is it the District's intent that the plates be milled to bear for the underside of the top flange and web of the S12 beam only?

Will the District require custom plates for each connection location to adjust to each specific beam produced, or will the District accept the typical splice plate be milled to meet the tolerances of the rolled section? This is applicable to other "mill to bear" callouts.

RESPONSE:

See Addendum 6 for revised and new Contract Drawings. New Contract Drawing S333B revised the detail at the S12 trolley beam splice to eliminate the 2" plate and the mill to bear requirement.

BID QUESTION No. 180:

Limits of Traveler Rail/Trolley Beam Removal and Erection of New, S001-S008 S302

Plans show limits of various existing rail/trolley beam removal and erection of new, but do not show any information at or in the vicinity of the center of the Suspension Bridge Main Span.

Are the various rails/trolley beams across the Suspension Bridge Main Span continuous? During the site visit, the Contractor has visually confirmed existing Side Traveler Top Rail are not continuous at the center of the span, as the plans would lead you to believe.

RESPONSE:

See Addenda 5 and 6 for revised Contract Drawings. See revised Contract Drawing S302 for traveler, rail and trolley beam removal and replacement limits. See revised Contract Drawings S004 through S008 for traveler travel limits.

The existing side traveler crane rails and trolley beams are not continuous across the main span of the Suspension Bridge. The existing interior traveler crane rails and the existing bottom traveler trolley beams are continuous across the main span of the Suspension Bridge.

The new side traveler crane rails and trolley beams are not continuous across the main span of the Suspension Bridge. The new interior traveler crane rails and the new bottom traveler trolley beams are continuous across the main span of the Suspension Bridge.

BID QUESTION No. 181:

Traveler Rail/Trolley Beam connection material removal, S333 S334

Plans show replace existing rail/trolley beam member as well as remove and replace fasteners. Plans show erecting new connection materials such as shim plate, base plate, angles, chairs, etc.

Please, provide detail identifying existing material required to be removed, so that quantities can be calculated and the appropriate level of planning can be completed.

RESPONSE:

See Addendum 6 for revised Contract Drawings.

Revised Contract Drawing S333 provides details for the removal of the existing interior traveler crane rail, bottom traveler trolley beam, and side traveler rail and trolley beam. You are also encouraged to review the Record Drawings as this information may assist you in investigating the site conditions to be encountered.

BID QUESTION No. 182:

Salt Spray Testing; 55-1.02A

Paragraph nine (9) of 55-1.02A states: Corrosion resistance testing must comply with section 6.5, corrosion resistance, and Section 8.5, "Salt Spray Corrosion Resistance", of ASTM B695 and must be performed on three fastener assemblies from each lot. Any signs of red rust present on any part of the fastener assemblies at the end of the test are cause to rejection of the lot."

Please provide clarification regarding the Salt Spray testing requirements defined by ASTM B695 and the testing requirements defined by Specification Section 55-1.02A, which states:

- A) A Salt Spray test must be performed on 3 bolts from each lot of bolts
- B) Red Rust on any part of the fastener assembly will cause rejection of the lot of bolts.

Question:

1) ASTM B695 Table 1, indicates that Type 1 Bolts, Classes 55-110, have no requirement for Salt Spray testing. Will Type 1 Bolts, Classes 55-110 , require any salt spray testing, and if so, which tests for how many hours?

2) ASTM B695, Section 6.5, Corrosion Resistance, states: "The presence of corrosion products visible to the unaided eye at normal reading distance at the end of the specified test stated in Table 1 shall constitute failure, **except that corrosion products at edges of specimen shall not constitute failure.** " Please confirm that specification requirement that "Red Rust on any part of the fastener assembly will cause rejection of the lot of bolts" will allow for red rust to appear on the edges of any mechanically galvanized nut/bolt, including the edges created by the threads, as allowed by ASTM B695.

Please note that bolt manufacturers indicate that mechanically-deposited coatings that meet ASTM B695 acceptance criteria defined by Section 6.1 through 6.4, will fail a 300 hour salt spray test if the rejection criteria includes the presence of red rust on the edges or threads of bolts or nuts.

3) If salt spray testing is required for Type 1 Bolts, Classes 55-110 , please clarify the definition of "must be performed on three fastener assemblies **from each lot**". Will testing be required for all bolt orders, all sizes, each unique heat numbers, unique mechanical galvanizing batch, and including small orders (<10 Bolts)?

RESPONSE:

See Addendum 8 for revised Section 55. Revised Section 55-1.02A states:

“Corrosion resistance testing of fastener assemblies must comply with section 6.5, ‘Corrosion Resistance,’ and section 8.5, “Salt Spray Corrosion Resistance,” of ASTM B 695. Corrosion resistance testing must be performed on 3 fastener assemblies from each lot except for fastener assemblies that have zinc coating thickness equal to or greater than Class 55 as specified in ASTM B 695. Any signs of red rust present on any part of the fastener assemblies at the end of the test period are cause for rejection of the lot.”

- 1. Corrosion testing is not required for fastener assemblies that have zinc coating thickness equal to or greater than Class 55 as specified in ASTM B 695.*
- 2. Any signs of red rust present on any part of the fastener assemblies at the end of the test period are cause for rejection of the lot.*
- 3. As stated in Item #1 above, corrosion testing is not required for fastener assemblies that have zinc coating thickness equal to or greater than Class 55 as specified in ASTM B 695. Each lot shall be as defined in Section 9.4 of ASTM A 325 and Section 7.2 of ASTM B 695.*

BID QUESTION No. 183:

Ref: drawing S333 Detail 1

- a. Note states that 2" plate is "Mill to bear on S12 flange". Does the bearing surface only apply to the surface of the lower plate and the S12 bearing or does the plate have to have complete bearing against the upper 1-3/4" plate as well? Mill tolerance of rolled shapes vary not only from beam to beam but also within the total length of any given shape. Each plate will be unique if bearing is required at all surfaces of the S12 and the upper plate.
 - i. Please let us know if there is an allowable gap between the lower plate and the upper plate in this detail.

RESPONSE:

See Addendum 6 for revised and new Contract Drawings. New Contract Drawing S333B revised the detail at the S12 trolley beam splice to eliminate the 2" plate and the mill to bear requirement.

BID QUESTION No. 184:

Please clarify which items are included in Miscellaneous Metals Bid Item #51. Does this item include the tension rod hanger bracket, clevis with SS pin, turnbuckle, 1.25" dia. Rods and Detail 1 shown on Drawing S173? Are there any other drawings which show miscellaneous metals that are included in this Bid Item?

RESPONSE:

See Addenda 5 and 8 for revised Contract Drawings and revisions to Section 75.

Revised Section 75-1.06, Payment, states:

The Contract price paid per pound for Contract Item "Miscellaneous Metal (Bridge)" includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in furnishing and erecting miscellaneous metal (bridge) for the Net Support Tension Rod System and stainless steel threaded rod anchor bolt assemblies, including galvanizing and painting, as shown on the Plans, and as specified in these Special Provisions, and as directed by the Engineer and no additional compensation will be allowed therefor.

Revised Section 75-1.03, General, lists the components of the Net Support Tension Rod System and the stainless steel type 316 threaded rod anchor bolt assemblies.

Revised Contract Drawing S173 shows the net support tension rod system layout.

Contract Drawings S252 and S253, and revised Contract Drawings S254 and S280 show details for the stainless steel threaded rod anchor bolt assemblies.

BID QUESTION No. 185:

Sheet 114D/224 Note 2, added by Addendum No. 6, states "Remove and replace exist track girder lacing bar as directed by the Engineer. Assume remove and replace four (4) lacing bars top and bottom (8 total) per track girder TG-1 panel as shown on S333:

- a. For the lacing bars that are assumed to be removed and replaced, what Contract Item is this work to be included and paid under?
- b. Will the weight for these lacing bars be added to the quantity of the Contract Item answered in part a. of this question?
- c. What will be the basis of the Engineer's direction to remove and replace track girder lacing bars?
- d. How will the Contractor be compensated for the lacing bars removed and replaced per the Engineer's direction?

RESPONSE:

See Addenda 6 and 8 for revisions to the Contract Drawings and Sections 15, 48, 55 and 59. See Addendum 9 for revisions to the Engineer's Estimate and the Schedule of Prices.

With regard to the existing track girder lacing bar removal specified on revised Contract Drawing S333D:

- a. *For the lacing bars shown on the plans to be removed and replaced:*
 - *the payment for lacing bar removal, including furnishing, installing and removing temporary struts, is included in Contract Item Nos. 16, Bridge Removal (Portion-Rail Girder-Bottom Travelers) Location E, or 17, Bridge Removal (Portion-Rail Girder-Interior Travelers) Location F.*
 - *the payment for spot blast cleaning and painting of existing steel is included in Contract Item No. 45(F), Spot Blast Clean and Paint (Rail Girders).*
 - *the payment for furnishing and erecting new galvanized lacing bars is included in Contract Item Nos. 31(F), Furnish Structural Steel (Rail Girders-Bottom Travelers), 32(F), Furnish Structural Steel (Rail Girders-Interior Travelers), 34(F), Erect Structural Steel (Rail Girders-Bottom Travelers), or 35(F), Erect Structural Steel (Rail Girders-Interior Travelers).*
 - *the payment for the removal and replacement of fasteners is included in Contract Item No. 39(F), Remove and Replace Fasteners (Rail Girders).*
 - *the payment for painting of the new galvanized lacing bars and fasteners is included in Contract Item No. 43, Clean and Paint Structural Steel.*

- b. *The weight of the new lacing bars is included in the revised quantities of the furnish and erect contract items listed above and the number of existing fasteners to be removed and replaced is included in the revised quantity of the remove and replace fasteners contract item listed above in the revised Engineer's Estimate and Schedule of Prices.*
- c. *The Engineer will assess the condition of the existing track girder lacing bars and determine which bars are to be removed and replaced. The number of lacing bars to be removed and replaced at a particular track girder panel may vary depending on the Engineer's assessment. The 8 lacing bars to be removed and replaced per track girder panel, as indicated on the Contract Drawings, equates to a total number of 3,872 lacing bars. The weights of the lacing bars and associated fasteners to be removed and replaced are included in the quantities of the contract items listed above.*
- d. *The Contractor will be compensated for the track girder lacing bar removal and replacement by payment of the contract items listed above. If the Engineer directs the removal and replacement of additional track girder lacing bars, in excess of the total number of 3,872 lacing bars indicated on the Contract Drawings, the Contractor will be compensated under an approved Contract Change Order. The compensation for work covered by contract items designated as (F) in the Engineer's Estimate will be in accordance with Section 9-1.02C, Final Pay Item Quantities.*

BID QUESTION No. 186:

Warranty

the warranty terms in section 60-1.04 describe the 25-year manufacturer's warranty "...for defects in Materials...". Please describe the term "defects in Materials" in detail. Which incidents are included/excluded?

RESPONSE:

All materials making up the SDNS, with no exception, should remain free of defects that could impair the SDNS's intended performance of at least 25 years. A defect in material would be if the final fabricated and/or installed SDNS does not meet the requirements of the product described or presented in the Contract Drawings or Special Provisions. Possible incidents that could be considered as a defect in material include but are not limited to the materials/products not meeting the specified strength or performance parameters, material corrosion or degradation due to improper chemical composition or preparation, incorrect material chemical composition content, and improper material handling and assembly of the product.

BID QUESTION No. 187:

Batch Size

In section 60-1.01D(4) – Quality Control Testing, the lot size for testing purpose for wire ropes and strands is limited to 20'000 feet. Is this requirement also valid for all regular batches which will be installed on the bridge?

RESPONSE:

See Addendum 5 for revised Section 60-1.

Revised Section 60-1.01D(4), Quality Control Testing, defines a lot for wire rope or wire strand as consisting of not more than 20,000 feet of the same construction and diameter produced continuously by one machine or by one series of machines.

The Contractor shall use this definition of a lot whenever the SDNS Materials Quality Control-Test Frequency Schedule at the end of Section 60-1 states that the frequency of sampling and testing by Contractor for wire rope or wire strand material is for each lot or for every lot.

BID QUESTION No. 188:

Conduit Support

Detail A on drawing E513 details the "Typical Under Sidewalk Conduit Support Section Looking North" for Conduit C1-C10 (Existing conduit #48) – which is the existing spare conduit to be used for the new Traveler Charging Station Feeders. Note #17 on drawings E528 (Addendum 6) states "Support conduits every five (5) feet".

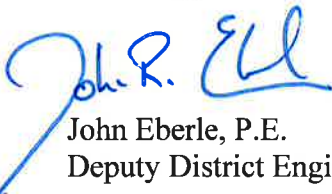
Is it the District's intent to provide new conduit supports every five (5) feet for both the "new conduit system only that is required for the East and West Charging Stations" and "the complete existing under sidewalk Conduit C1-C10 (existing conduit # 48)"? Please clarify. The Contractor assumes no additional supports are required for the existing under sidewalk Conduit C1-C10 (existing conduit # 48).

RESPONSE:

See Addendum 8 for new Section 78 and revised Contract Drawings. Note 17 on Contract Drawing E528 is a general note for new conduit installation. New conduits must be supported every (5) feet and as shown on the Contract Drawings.

At locations where new conduit is spliced to the existing conduit, both the new and existing conduits must be supported as shown and in accordance with NEC requirements and the contractor's design. See revised Contract Drawings E513, E514 and E515. Except at the conduit splice locations, the Contract does not require additional conduit supports for existing conduit #48, re-named Conduit C1-C10.

Sincerely,



John Eberle, P.E.
Deputy District Engineer