

July 6, 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. 252 through 265**

Ladies and Gentlemen:

The following are the responses to questions submitted by prospective bidders and designated as Bid Question No. 252 through 265:

BID QUESTION No. 252:

Drawings General:

On every drawing is a general Note: "...resolve all field conflicts before submitting working drawings.."

Drawing No. S115/S181/S280

There are general Notes for un-tensioned net sections stating: "...provide additional two linear feet of interior border cable...". Due to the different lengths of inner and outer border cable, a constant mesh width of 120mm (ref. Drawing S181) cannot be accomplished. Additionally, Bid Question #112 states that the final details for the fabrication of the un-tensioned net must be provided in the SDNS Working Drawings and the SDNS Installation Work Plans.

It seems that there are specific requirements to include bridge movements, but the contract drawings do not show appropriate details. There are unresolved conflicts such as different border cable lengths, vertical sags, non-uniform mesh orientation and the orientation of the end terminals.

In addition, the drawings show eye cables in a way, which wire strands cannot be installed. Who will be finally responsible for the system development as the SDNS Manufacturer has to provide the Installation Working Drawings but not the Design Drawings?

RESPONSE:

See Addenda for revised Section 60-1 and revised Contract Drawings.

The additional lengths of the exterior and interior un-tensioned border cables shown on Contract Drawing S115 are required to accommodate relative movement between the South Approach Viaduct truss, Pylon S2 and the Fort Point Arch truss during an earthquake. It is expected that the exterior and interior border cables will have different vertical sags and that this may cause non-uniform openings of the mesh.

Section 60-1.01C(1)(a), SDNS Fabrication Working Drawings, specifies that the SDNS Fabrication Working Drawings must be approved by the Manufacturer's representative. This is to assure that final details shown on these Drawings 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. Consequently, the Contractor is responsible to provide in the SDNS Fabrication Working Drawings the final SDNS geometry and details, such as orientation of the end terminals and configuration of the eye cables, that accommodate the SDNS product as well as incorporate results of the Contractor's field measurements and the results of the SDNS Installation Mock-up.

Contract 2016-B-1 will be between the District and the Contractor. The assignment of responsibility between the Contractor and the SDNS Manufacturer for development of the final SDNS fabrication details and installation procedures is a responsibility of the Contractor.

BID QUESTION No. 253:

Drawing No. S122

Detail 2 shows the 7/8" Bolt anchor shackle and the border cable attached to the existing "WE" Truss. What is the purpose of the notes "SDS net and Border cable"? Will the border cable be connected to the shackle?

RESPONSE:

See Addenda for revised Contract Drawings.

Detail 2 on Contract Drawing S122 shows the border cable running through the Bolt Anchor Shackle with the schematic outline of the net mesh attached to the border cable. It is not intended that the border cable or net mesh be attached directly to the Bolt Anchor Shackle.

BID QUESTION No. 254:

Drawing No. S172

It's assumed, that the border cable might slide inside the shackle up to +/-6" in a longitudinal direction, maybe even more if the stopper slips at a force equal to 1.5kips. How can the mesh be protected from damage if the border cable slides? How can the wires of the border cables be protected from damage due to the high point load between Shackle and Border Cable?

RESPONSE:

See Addenda for revised Contract Drawings.

The border cable is not expected to slide under the design loads.

The stopper is only in place to prevent the border cable from slipping through the Bolt Anchor Shackle if the border cable or its connections were to fail under an extreme event, which is beyond the intended use of the net covered by the design. Slippage of the stopper at 1.5 kips is required to prevent the bridge truss members, to which the net supports are connected, from being overloaded should an extreme event happen. It is expected that damage to the SDNS caused by such an extreme event will require repairs.

The border cable to shackle or eye cable details have been used successfully on other projects that utilized a similar net system without any noticeable damage, and, therefore, no additional protection is deemed to be required when these details are subjected to the design loads.

BID QUESTION No. 255:

Drawing No. S180

Details of the mesh along the sidewalk stringer is not clear. What type of mesh is recommended between Span 4 and Tower 4? What is the meaning of the measurement 0'-0" +/-?

Drawing No. S180 shows no detail about the mesh opening along the parabolic shape of the border cable. The respond to Bid Question #93 mentions, that the connection will be in accordance with the SDNS Manufacturer's procedures.

Is the Designer of the SDNS aware, that the mesh opening will deviate from the specification along the border cable due to the parabolic cut of the mesh?

RESPONSE:

See Addenda for revised Section 60-1 and Contract Drawings.

Contract Drawing S104 and Detail 1 on Contract Drawing S122 show cross sections of the net to be installed over the gap created by the offset between the WE Truss and the sidewalk edge at Span 4 and Tower 4 of the North Approach Viaduct. The meaning of the dimensions shown in Detail 4 on Contract Drawing 180 is that the offset varies from approximately zero (0'-0") to approximately 4'-4" along the southern portion of Span 4 and Tower 4. The purpose of this net is to close the gap and prevent a person from falling into the gap or onto the ledge.

The same mesh and tensioned border cables that are used for the SDNS and shown in Detail 1 on Contract Drawing S180 shall be used for the net over the ledge.

As required by provisions in Section 60-1.01C(1)(a), SDNS Fabrication Working Drawings, the Contractor shall provide fabrication details of the SDNS, including proposed geometry of the mesh cut, over the WE Truss at Span 4 and Tower 4 of the North Approach Viaduct for the Engineer's review and approval.

The District is aware that there may be deviations of the mesh opening along the border cable.

BID QUESTION No. 256:

Drawing No. S214

The Connections Clevis/Shackles as specified causes high point loads due to the round shapes of bolts and shackles. How should the bolts of the clevis be prevented from damages caused by the high point load? What kind of isolation sleeve will be needed between swaged fork and anchor shackle?

RESPONSE:

See Addenda for revised Special Provisions and Contract Drawings.

Please refer to Contract Drawings S002 and S111 and Section E on Contract Drawing S175. Contract Drawing S002 shows the southern limit of the SDNS. Contract Drawing S111 shows the South Approach Viaduct Bent S9 end support, which acts as a termination point for the SDNS.

The main longitudinal border cables, either exterior or interior, connect to steel plates, shown in Section E on Contract Drawing S175. These plates are also used to attach a transverse border cable and an end border cable, either exterior or interior. The exterior and interior end border cables then connect to the clevis in question.

The majority of the force that would be caused by an object falling into the net near the South Approach Viaduct Bent S9 end support would be absorbed by that end support, with the exterior end border cables providing additional support. Therefore, the anticipated loading between the clevis pin and the shackle, as shown in Elevation View A on Drawing S214, is relatively low and is not expected to result in any damage associated with a high point load.

The isolation sleeves should be the same as specified in Materials Note 11 on Contract Drawing Z005 and in Section 55-1.02A(7)(b), Isolation Sleeves and Washers, added in Addendum 8.

BID QUESTION No. 257:

Drawing No. S230

Non- uniform mesh openings, will result in non-uniform tension forces. What should the SDNS Manufacturer do, if the proposed radially mesh orientation with openings between 45° and 80° do not meet the specified mesh and border cable tension forces?

RESPONSE:

See Addenda for revised Section 60-1 and Contract Drawings.

Please note that, while tension forces for the boarder cables of this net are specified, these are no specified tension forces for the net mesh but the geometry shown in Detail 1 on S230 shall be satisfied.

The Contractor shall submit the SDNS Fabrication Working Drawings in accordance with Section 60-1.01C(1)(a), SDNS Fabrication Working Drawings, with the proposed net geometry for the Engineer's review and approval.

BID QUESTION No. 258:

SDS 60-1, 60-01A Summary

“iv. Warranty term and conditions,...., that comply with Sections 6-3.06 and 60-1”: What if the terms and conditions cannot comply with these sections?

RESPONSE:

See Addendum No. 12 for revisions to Section 60-1.01A, Summary. Item iv. referred to in the question has been removed from the list.

BID QUESTION No. 259:

SDS 60-4, 60-1.01C(1)(d) SDNS Installation Work Plans, (v.)

“...installation Working Drawings, incl. Calculations demonstrating the adequacy of temporary bracing and permanent net support...”

All installation conditions needs to be proved by the SDNS manufacturer even when the bracing is not in the SDNS Manufacturer's scope?

RESPONSE:

See Addenda for revised Section 60-1.

Section 60-1.01C(1)(d), SDNS Installation Work Plans, specifies that the SDNS Installation Work Plans must be approved by the Manufacturer's representative. This is to assure that sequence of work and procedures for the SDNS installation, the SDNS splicing locations and procedures, the SDNS tensioning and temporary lock-off procedures, and the SDNS repair and cleaning procedures 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.

Contract 2016-B-1 will be between the District and the Contractor. The assignment of responsibility between the Contractor and the SDNS Manufacturer for development of the final SDNS fabrication details and installation procedures is a responsibility of the Contractor.

BID QUESTION No. 260:

SDS 60-8, 60-1.02A(1) General

Two assembled mesh panels with a final measurement of 50 feet by 23 feet... This will require a solid frame, supporting the border cables. Due to handling reasons, the frame needs to be built at its final location. Where will this location be?

RESPONSE:

See Addenda for revised Section 60-1.

Section 60-1.02A(1), General, lists, among other additional SDNS components, products and tools,

- *Four assembled mesh panels with a final measurement of 10 feet by 10 feet when the mesh is tensioned to the same tension as the installed SDNS on the Bridge*
- *Two assembled mesh panels with a final measurement of 50 feet by 23 feet when the mesh is tensioned to the same tension as the installed SDNS on the Bridge*

These panels are not required to be tensioned on frames. Border cables are not required to be provided with these panels. The dimensions of the panels shall be such that, when tensioned, the dimensions shall be as specified.

The Contractor shall provide these mesh panels, with the dimensions, rolled or folded, and properly packaged in such a way so they can be stored without degrading their integrity.

The final storage location near the Bridge will be determined by the Engineer at a later date during construction.

BID QUESTION No. 261:

SDS 60-12, 60-1.04 Warranty

“Submit a 25-year manufacturer's warranty for defects in materials and workmanship, assuming the District performs periodic inspection and twice a year pressure washing with clean water.”

What if twice a year is not sufficient to keep the material free of corrosion? How can the net be pressure washed from underneath? What does "...include but are not limited..." in bid question #186 means? Will the SDNS manufacturer be responsible for "defects in Materials" caused e.g. due to inadequate design?

Has the Authority obtained any material testing results confirming that the specified AISI Type 316 or 316L stainless steel material will not develop corrosion when put in place in the Project's marine environment over a 25 year period? If/when corrosion occurs, will the Authority deem this corrosion a "material defect" requiring remedy within the manufacturer's 25 year warranty period?

RESPONSE:

See Addenda for revisions to section 60-1.

As specified in Sections 60-1.01A, Summary, and 60-1.01C(1)(e), Maintenance and Repair Manual, the Contractor is required to provide recommended frequency of and procedures for inspections and cleaning of the SDNS, including recommendations regarding the pressure washing. If pressure washing is included in the recommended net cleaning procedures, the District will assess, and may revise as necessary, the frequency of pressure washing based on the results of inspections and Manufacturer's recommendations.

The phrase "...include but are not limited..." means that not all potential material and workmanship defects were listed as examples in the District's answer.

Please refer to revised Section 60-1.04, Warranty, issued in Addendum No. 14, which states:

“Provide a 10-year manufacturer's warranty conforming to the provisions in Section 6-3.06 for defects in the SDNS materials and workmanship.”

Section 6-3.06 states:

“Warrant that all materials and equipment furnished under the Contract will be new unless otherwise specified, and that all work (without limitation, including all materials, equipment and workmanship) will be of the specified quality, free from faults and defects and in full and complete conformance with the Contract Documents. All work not conforming to these requirements, including

substitutions not properly authorized by the Engineer, will be considered defective by the District.”

If corrosion develops during the 10-year warranty period but is not caused by defects as stated in Section 6-3.06, the District will not deem such corrosion a material defect.

BID QUESTION No. 262:

On Z006 the relevant technical standards are named. In the documents we find details, that do not fulfill the technical requirements of the named standards or usual technical rules. There are technical concerns about some details.

Example: support border cable through shackle, like shown on “S172 Typical Net Support”.

stress in contact area of cable and shackle and movement result in a high risk of damaged or broken strands of the border cable...

That does not match with the required warranty period.

RESPONSE:

See Addendum No. 5 for revised Contract Drawings.

The intent of this question is not discernible except for the example provided.

The border cable through shackle configuration referenced in the question has been used successfully on other projects, which utilized a similar net system required under this Contract, without any noticeable damage, and therefore no additional protection is deemed to be required.

BID QUESTION No. 263:

SDS 60-14, SDNS Materials Quality Control - Test Frequency Schedule

“Wire for Wire Rope and Wire Strand must be tested for intergranular attack in its finish state according Practice A of ASTM A262.

The specified wire ropes and wire strands for the SDNS consists wires in diameter of 0.25mm. The highly worked condition of the small diameter wire does not provide sufficient area to properly conduct the electrolytic etch process per ASTM A262 Practice A on individual wires. An additional problem is with the amount of cold working which has been done. The grain structure has been significantly deformed, which makes microstructure evaluation of the grain boundaries prescribed in ASTM A262 Practice A

impossible.

Could the District please advise, how the SDNS manufacturer should handle test requirements which are not applicable for the specified SDNS materials?

RESPONSE:

Please refer to Addendum No. 13 for revised Section 60-1.02A(1), General, which states:

“The chemical composition of the stainless steel used for the SDNS must conform to the requirements for Type 316 or 316L stainless steel as listed in the ASTM specification for each component in the table above. The chemical composition of the steel must be determined by ASTM A751. Each component must be tested for susceptibility to intergranular attack in its finished state (i.e., after the last heat treatment, cold working, or machining), except that, the material for drawn wire shall be tested for susceptibility to intergranular attack before the drawing process.”

BID QUESTION No. 264:

We would like further clarification of the required 25 year warranty to be supplied by the SDS net manufacturer. Addendum #5 60-1.04 states that the SDS net manufacturer is to submit a 25 year warranty for “defects in materials and workmanship, assuming the District performs periodic inspections and twice a year pressure washing with clean water.”

1. First, we would like to ask why is the phrase “assuming the District performs periodic inspections and twice a year pressure washing with clean water” a part of this warranty specification? Inspections and periodic washing have nothing to do with defects in materials and workmanship, unless the insinuation is that the manufacturer is also to warrant against corrosion from the environment given a specified maintenance protocol?
2. Bid question No. 186 does help further explain what are considered “defects in materials,” but it does not explicitly clarify if the SDS net manufacturer’s warranty is to cover possible corrosion of the specified 316/316L stainless steel material due to local conditions?
3. Additionally, please confirm that although the SDS net manufacturer is to submit an operations and maintenance manual, this submittal will do nothing to expand the SDS net manufacturer’s “defects” warranty. Any recommended cleaning or maintenance included within this manual are only suggestions based on our experience with the materials in various other locations and do not convey from the SDS net manufacturer that the specified 316 stainless material will resist

corrosion in this particular environment for any specific amount of time if these procedures are followed.

4. Lastly, please confirm when the SDS net manufacturer's defect warranty is to begin, and if it is to align with this contract and only cover replacement of defective material with compliant material (with installation by others), or if the warranty is to provide that the SDS net manufacturer will bear the cost for both replacing defective material with compliant material and the installation of that replacement material.

RESPONSE:

1. *Revised Section 60-1.04, Warranty, issued in Addendum No. 12, changed the warranty term for the SDNS to 10 years. Addendum No. 14 has further revised Section 60-1.04 by removing the phrase referenced in item 1 of the question.*
2. *The Manufacturer's warranty is not responsible for 316/316L stainless steel material corrosion caused by the environmental conditions at the Bridge if the material and workmanship is in conformance with the Contract provisions.*

Revised Section 60-1.04, Warranty, states:

"Provide 10-year manufacturer's warranty conforming to the provisions in Section 6-3.06 for defects in the SDNS materials and workmanship."

Section 6-3.06 states:

"Warrant that all materials and equipment furnished under the Contract will be new unless otherwise specified, and that all work (without limitation, including all materials, equipment and workmanship) will be of the specified quality, free from faults and defects and in full and complete conformance with the Contract Documents. All work not conforming to these requirements, including substitutions not properly authorized by the Engineer, will be considered defective by the District."

3. *The District concurs that the requirement for providing the Maintenance and Repair Manual is not intended to expand the SDNS manufacturer's warranty over the recommended cleaning and maintenance procedures to guarantee that the specified stainless steel will resist corrosion in the bridge environment if the SDNS material and workmanship conform to the Contract provisions.*
4. *The SDNS 10-year warranty is specified to start at the final acceptance date of the Contract by the Engineer.*

Please refer to Addenda No. 12 and 14 for revisions to the SDNS warranty provisions. The revised provisions in Section 3-1.05, CONTRACT BONDS (PUB

CONT CODE §§ 10221 AND 10222) require the Contract Bonds to guarantee the warranty obligations for furnishing and installation of the SDNS as follows:

- *The first two years of the warranty period are guaranteed by the Contractor's Performance*
- *Years three through five of the warranty are guaranteed by the Contractor's Warranty Bond*

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. 265:

Volume V of the Bid Documents includes an Attachment C – Bidder's Bond. Within this Bond Form is the following paragraph:

“NOW, THEREFORE, if the Principal complies with all Pre-Award Requirements, including, but not limited to, the submission of its Statement of Qualifications and Business References and Bid Documentation, and is awarded a Contract by the District and, within the time and in the manner required by the Specifications, (i) executes a written Contract with the District; and (ii) provides the required bonds and proof of insurance, then this obligation will become null and void, otherwise to remain in full force and effect.”

The underlined language is unusual and not clear, nor is its purpose. Usually the Bidder's Bond is conditioned on the bidder signing the contract and providing the bonds and insurance; how Pre-Award Documents are involved is not clear. Please confirm that if a Bidder submits its Pre-Award Requirements including Statement of Qualifications and Business References and Bid Documentation and one or more parts of such documents are determined by the District not to meet the requirements of the Bid Documents, it is not the intent of the District to seek recovery pursuant to the Bidder's Bond.

RESPONSE:

Please see Addendum 10 for revised Section 2-1.34 BIDDER'S SECURITY and Addendum 14 for revised Bidder's Bond form.

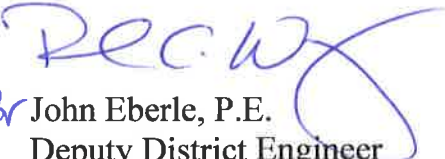
Revised Section 2-1.34 BIDDER'S SECURITY, states:

“Your bid security must guarantee that you will not improperly withdraw your bid at any time during the District's consideration of the Proposal. The security must

be available to the District if you fail to comply with all pre-award requirements applicable to you by the designated deadlines, including, but not limited to, failure to submit the Bidder's Statement of Qualifications and Business References; failure to submit Bid Documentation; failure to submit DBE Commitment and Good Faith Effort documentation; failure to submit California Contractor's license numbers of the prime bidder and its listed subcontractors; California Department of Industrial Relations (DIR) Registration numbers of the prime bidder and its listed subcontractors. In addition, if you are awarded the Contract, your bid security will guarantee that you will, by the designated deadlines, (i) submit executed "Construction Contract DBE Commitment" form; (ii) execute the Contract; and (iii) provide the required bonds and proofs of insurance."

If the Principal on the Bid Bond submits all pre-award and post-award documents by specified deadlines, including the documents listed in Section 2-1.34 and on the revised Bidder's Bond form, and one or more parts of such documents are determined by the District not to meet the requirements applicable to these documents, it is not the intent of the District to seek recovery pursuant to the Bidder's Bond.

Sincerely,


for John Eberle, P.E.
Deputy District Engineer