



Agenda Item No. (3)

To: Building and Operating Committee/Committee of the Whole
Meeting of June 27, 2024

From: John R. Eberle, Deputy District Engineer
Ewa Z. Bauer-Furbush, District Engineer
Denis J. Mulligan, General Manager

Subject: **AUTHORIZE APPROVAL OF CONTRACT CHANGE ORDER NO. 87S1
TO CONTRACT NO. 2016-B-01, GOLDEN GATE BRIDGE PHYSICAL
SUICIDE DETERRENT SYSTEM AND WIND RETROFIT PROJECT**

Recommendation

The Building and Operating Committee recommends that the Board of Directors authorize approval of Contract Change Order No. 87 Supplement 1 (CCO 87S1) to Contract No. 2016-B-01, *Golden Gate Bridge Suicide Deterrent System and Wind Retrofit Project*, in the amount of \$572,303 for modifications to the sidewalk bracket strengthening details at the North Approach Viaduct, with the understanding that sufficient funds are available in the Contract No. 2016-B-01 construction contingency to finance this CCO.

This matter will be presented to the Board of Directors at its June 28, 2024, meeting for appropriate action.

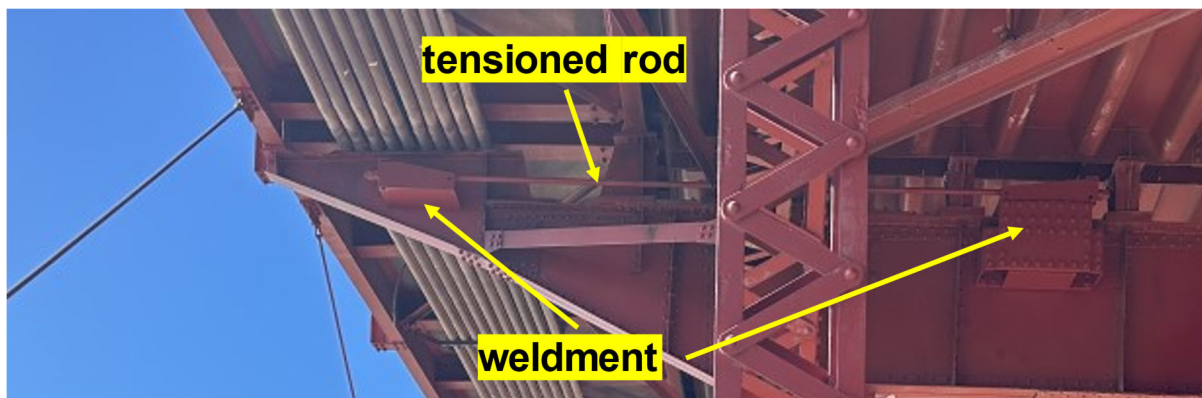
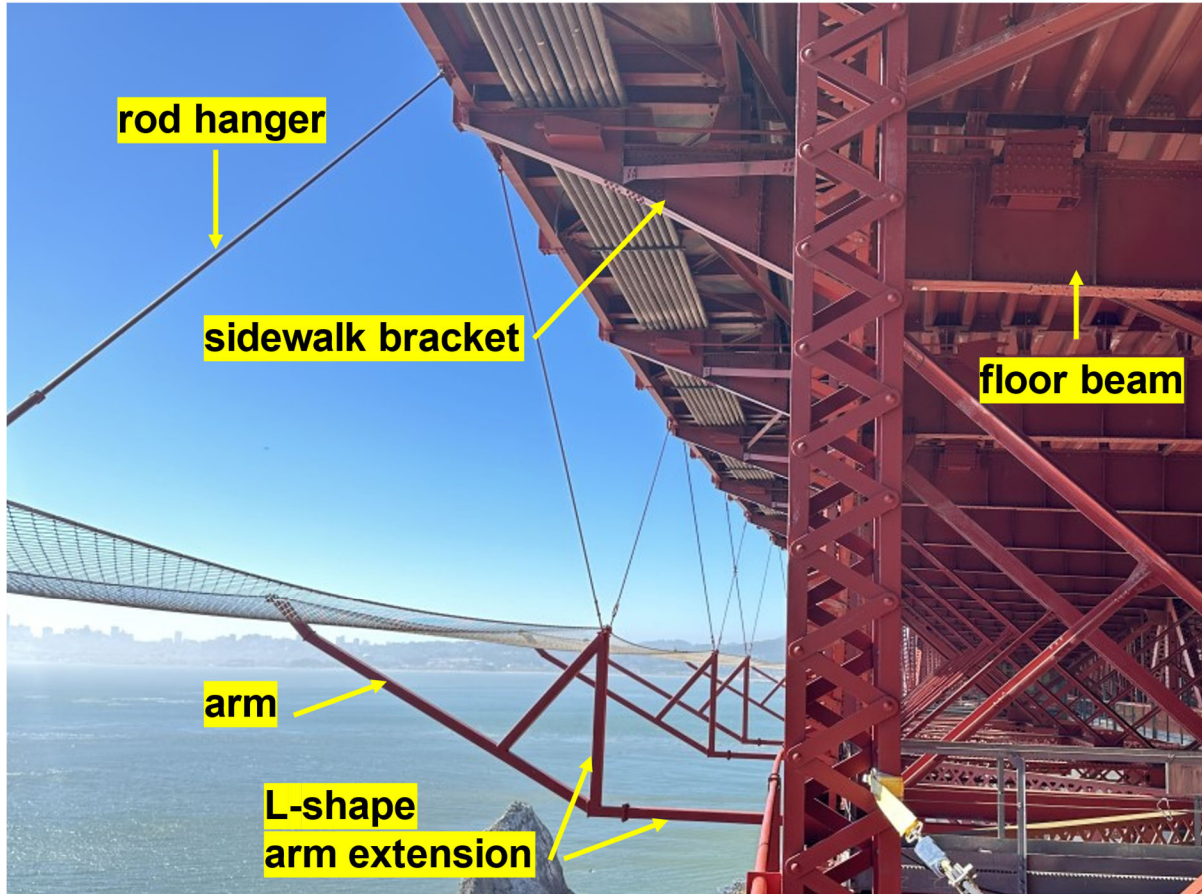
Summary

At its December 2016 meeting, the Board of Directors, by Resolution No. 2016-087, authorized the award of construction Contract No. 2016-B-01, *Golden Gate Bridge Physical Suicide Deterrent System and Wind Retrofit Projects*, to Shimmick Construction Company, Inc./Danny's Construction Company LLC, a Joint Venture (Contractor).

The Suicide Deterrent System (SDS) portion of Contract No. 2016-B-01 (Project #1526) involves construction of a tensioned horizontal stainless steel wire mesh net suspended on stainless steel border cables that are connected to and supported by cantilevered arms (net support arms) located along the west and east sides of four Golden Gate Bridge structures: the South Approach Viaduct, the Fort Point Arch, the Suspension Bridge, and the North Approach Viaduct. The net and its support arms are located approximately 20 feet below the sidewalk and extend out about 20 feet outside of the face of the bridge sidewalks.

On the east side of the North Approach Viaduct (NAV), due to the roadway horizontal curve, there are cantilevered floor beam sidewalk brackets (sidewalk brackets) that are connected to and extend up to 20 feet from the sides of the roadway truss floor beams to support the sidewalk. To connect

the suicide deterrent net support arms on the east side of the NAV, the 23-foot-long net support arms are fabricated with, on average, 30-foot-long steel L-shape arm extensions. These arm extensions are connected to the bottom of the NAV truss and suspended from rods (rod hangers) attached to the outer ends of the sidewalk brackets. To provide the required capacity of the sidewalk brackets to carry the loads transferred from the rod hangers, the Contract specified strengthening the connections between the sidewalk brackets and the floor beams at 45 locations by installing tension rod assemblies, with each assembly consisting of two tensioned rods and tension bearing weldments attached to the floor beams and the sidewalk brackets.



While performing field verifications and measurements of the existing structure, the Contractor discovered deterioration and warping of the floor beam top flanges at 29 of the 45 strengthening locations. The warping did not allow for full bearing of the weldments that were specified to be bolted to the top flanges. To resolve the conflict, the design consultant developed an alternate weldment that was to be connected to the sides of the floor beam webs.

In April 2020, the Board, by Resolution No. 2020-021, authorized approval of Contract Change Order No. 20 (CCO 20), in the amount of \$428,332.00, to revise the sidewalk bracket strengthening details at the 29 locations where the warped top flanges prevented installation of the original detailed weldments. CCO 20 also reduced the number of the remaining strengthening locations that did not require the alternate weldments from 16 to 14, because it was determined that strengthening was not required at two of these locations.

After fabricating the alternate tension rod assemblies, the Contractor began its installation. While attempting to tension the rods to the specified tension, it was noted that the weldments were not rigid enough to resist forces imparted on them. It was determined that the weldments had to be modified to correct the issue. Since the Contractor had already fabricated all 29 alternate weldments, Engineering staff requested that the design consultant develop revisions that allowed for re-use of the already fabricated alternate weldments.

The revisions to the weldment details added stiffening elements to create boxed shaped weldments capable of resisting the forces transferred from the tensioned rods. Engineering staff concurred with the modifications, provided revised drawings to the Contractor, directed the Contractor to proceed with the changed work at the 29 locations, and stated that compensation for the changes would be paid for in CCO 87.

In accordance with Subsection 4-1.05(4), Contractor Change Order Proposal, of Special Provisions Section 4-1.05, Changes and Extra Work, Engineering staff requested that the Contractor submit a detailed cost and time proposal for this change. The Contractor did not submit its cost proposal but instead submitted a Notice of Delay. The Contractor's Notice of Delay did not provide any documentation substantiating that CCO 87 would result in a delay to the Contract schedule critical path activities and that a time extension was warranted. Engineering staff and its scheduling consultant analyzed whether CCO 87 would impact the final completion of the work under the Contract and determined that the change does not warrant a Contract time extension. Engineering staff and its cost consultant estimated the CCO amount as \$350,000 by using the original Contract prices for other similar structural steel and painting work, cost adjustments for labor, equipment, additional engineering and management, and the Contract allowed overhead and profit rates.

The Contract states that, if the parties cannot reach an agreement on compensation terms for the change work, the Golden Gate Bridge, Highway and Transportation District (District) will make payment in such amount as the Engineer may determine to be fair and equitable.

Engineering staff issued CCO 87, in the amount of \$350,000. The CCO specified that compensation for the extra work associated with the changes to the 29 tension rod assemblies would be made on a time and materials basis in accordance with Special Provisions Section 9-1.04, Force Account. The CCO amount was within the General Manager's authority for change orders for this project.

After the CCO 87 work was completed, the Contractor submitted its daily Extra Work Force Account documentation for a total amount of \$1,066,796. Engineering staff and its cost consultants reviewed the submitted documentation and compared it to Engineering staff's daily inspection reports and signed daily reports for compliance with the Contract provisions for extra work. Engineering staff have determined that, of the total submitted amount of \$1,066,796, the allowable expended amount for the CCO 87 work is \$922,303. The \$144,493 difference has been determined to be related to equipment, labor hours and surcharges not supported by the Contract provisions or Engineering staff's daily reports. Engineering staff also reviewed the Contractor's documentation and the original CCO 87 estimate to determine the reasons for the difference between the original cost estimate and the actual costs. The review determined that the original cost estimate underestimated the costs for the fabrication and the installation of the modified tension rod assemblies, the additional field painting, and the additional rental costs for the access scaffolding utilized for the work. For example, the original cost estimate used unit prices for fabrication and installation of steel that were more appropriate for a large steel quantity and not for the small steel quantities that were fabricated and the more difficult installation.

To date, the Contractor has been paid \$350,000 under CCO 87. If approved, CCO 87S1 would compensate the Contractor for the additional \$572,303 determined to be the allowable expended amount for the CCO 87 change. The Federal Highway Administration (FHWA) has delegated CCO approval to the California Department of Transportation (Caltrans). The District has discussed CCO 87S1 with the Caltrans representative and received concurrence with proposed CCO 87S1.

Staff recommends that the Building and Operating Committee recommends that the Board of Directors authorize approval of CCO 87S1, in the amount of \$572,303, to Contract 2016-B-01, to be financed with the construction contract contingency for Project #1526, as described in this staff report.

Fiscal Impact

The *Golden Gate Bridge Physical Suicide Deterrent System Project* (Project #1526) is included in the FY 2023/24 Bridge Division Capital Budget with a total budget of \$224,416,041. The budget for Project #1526 includes a construction contingency in the amount of \$22,405,213. The total estimated cost of the issued to date and pending CCOs, including this CCO 87S1, is \$4,371,954. Sufficient funds are available in the construction contingency to finance the \$572,303 amount of CCO 87S1.