



Agenda Item No. (3)

To: Building and Operating Committee/Committee of the Whole
Meeting of October 22, 2020

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

Subject: **APPROVE ACTIONS RELATIVE TO PROFESSIONAL SERVICES
AGREEMENT NO. 2018-B-082, TEMPORARY STRUCTURES
ENGINEERING ADVISOR SUPPORT SERVICES FOR THE
CONSTRUCTION OF THE GOLDEN GATE BRIDGE PHYSICAL SUICIDE
DETERRENT AND TRAVELER SYSTEMS, WITH TJA ENGINEERING,
INC.**

Recommendation

The Building and Operating Committee recommends that the Board of Directors approve the following actions relative to Professional Services Agreement (PSA) No. 2018-B-082, *Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems*:

1. Authorize execution of the Second Amendment to PSA No. 2018-B-082 with TJA Engineering, Inc., Livermore, CA, in an amount not to exceed \$1,340,000, for continuation of engineering support services during construction of the Golden Gate Bridge Physical Suicide Deterrent System Project (Project #1526);
2. Establish a 10% contingency for the amendment in the amount of \$134,000; and,
3. Authorize an increase in the amount of \$1,474,000 in the FY 2020/21 Bridge Division Capital Budget for Project #1526, to be funded from District reserves, for a revised total Project #1526 budget of \$196,253,868.

This matter will be presented to the Finance-Auditing Committee at its October 22, 2020 meeting for concurrence, and to the Board of Directors at its October 23, 2020, meeting for appropriate action.

Summary

At its December 16, 2016 meeting, the Board of Directors, by Resolution No. 2016-087, authorized the award of construction Contract No. 2016-B-1, *Golden Gate Bridge Physical Suicide Deterrent System and Wind Retrofit Projects*, to Shimmick Construction Company, Inc./Danny's

Construction Company, LLC, a Joint Venture (construction contractor).

Contract No. 2016-B-1 involves construction of a physical suicide deterrent consisting of a horizontal stainless steel net system supported by cantilevered steel brackets spaced approximately 50 feet apart and connected to the steel trusses 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, and construction of a tall vertical railing at the North Anchorage Housing. The net and cantilevered steel brackets will be located approximately twenty feet below the sidewalk and extend out about twenty feet. Because the installation of the Net System on the Suspension Bridge will block operations of the existing Suspension Bridge maintenance travelers, the Project includes replacement of these travelers with new travelers that are configured to avoid interference with the Net System. The travelers will be located underneath, between and on the sides of the Suspension Bridge stiffening trusses.

In order to access the work areas where the existing travelers and traveler rails will be removed and the Net System and the new travelers, traveler rails and all other new traveler system components will be installed, the construction contractor must design, fabricate and install on the bridge temporary work access platforms, which support workers, equipment and materials required to carry on these construction operations. In addition to designing such access platforms, the construction contractor is also required to verify, by calculations, the structural integrity and capacity of the roadway and sidewalk decks and any other portions of the existing Bridge structures that carry construction loads imposed by the construction operations during the installation of the Net System, the removal of existing travelers, and the installation of new travelers. If found to be necessary, the construction contractor is also required to design temporary supports and bracing to strengthen the bridge elements that support the construction loads.

Due to the specialized nature of various temporary structures and supports and their attachment to the existing Golden Gate Bridge structures and the importance of contractor's proper engineering evaluation of the construction loads imposed on the bridge structures, the District required the services of an engineering firm with expertise in the evaluation of temporary structures and supports used during construction of major bridge retrofits and in the evaluation of existing steel bridges, and with knowledge of the Golden Gate Bridge structures to provide an independent "second opinion" review of the construction contractor's submittals related to the work access systems and other temporary structures required for the construction of the Suicide Deterrent Net System and travelers.

On October 26, 2018, by Resolution No. 2018-066, the Board of Directors authorized execution of a Professional Services Agreement, PSA No. 2018-B-082, to TJA Engineering, Inc. (TJA), in the not-to-exceed amount of \$870,500, to perform the above services, and approved a contingency for the PSA in the amount of \$87,050. The services consist of: (1) reviewing the construction contractor's requests for information (RFI) and assisting in commenting on and preparing responses to construction contractor's RFIs related to the temporary structures and construction loads; (2) reviewing and providing comments, advice and recommendations on the construction contractor's design and work plans for the temporary structures; (3) reviewing and providing comments, advice and recommendations on the construction contractor's engineering evaluations, by calculations, of the structural integrity and capacity of the roadway and sidewalk decks and any other portion of the existing Bridge structures that will carry construction loads imposed by the contractor's operations, including the temporary structures, during the installation of the Net

System, the removal of the existing travelers, and the installation of new travelers; (4) reviewing and providing comments, advice and recommendations on the construction contractor's design of the temporary supports and bracing, if required, to provide sufficient capacity of the roadway and sidewalk decks and supporting structure for the additional loads imposed by the contractor's operations; and (5) participating in meetings with the District and construction contractor.

To date, the construction contractor has developed some of the temporary access systems, mainly for the Suspension Bridge truss spans and the North Approach Viaduct. Design of the access systems for the Suspension Bridge north back span and main towers and the South Approach Viaduct is still outstanding. In addition, the construction contractor is still developing access systems that will be used to remove the existing maintenance travelers and install the new maintenance travelers.

The effort required to review and evaluate the construction contractor's various different temporary structure systems has exceeded the originally estimated level of effort due to much higher number of submittals covering different access systems and much higher number of resubmittals required to achieve the acceptable submittal content. In July 2020, staff reviewed the remaining temporary structure submittals still under review and the remaining PSA budget and determined that an increase to the PSA amount was required in order to pay for the effort and costs associated with reviewing the submittals. On August 17, 2020, Amendment No. 1 in the amount of \$87,050 was issued using the PSA contingency approved by the Board.

The contract completion date for Contract No. 2016-B-01 is January 12, 2021, but the project has not progressed as planned. The construction contractor has informed the District that all of the work will not be completed until April 2024 and that they will be continuing to develop and submit temporary access systems and other temporary structure work plans throughout this time period. Staff has performed a review of these remaining submissions and determined that to carry on the temporary structures engineering advisor support services through April 2024, an amendment to the PSA increasing the budget is necessary. The extended temporary structures engineering support services will involve the scope of work listed in the PSA as presented above.

Engineering staff requested, and TJA has provided, a cost proposal in the amount of \$840,000 for the requested additional scope of engineering support services. Engineering staff has reviewed the proposal and found it to be reasonable in terms of TJA's budgeted labor hours to perform the additional scope of services requested by the District and it was consistent with TJA's audited labor and overhead billing rates.

In addition, TJA's assistance is required with the review and response to the construction contractor's claims for additional compensation and time extension related to disputes involving temporary access systems and other aspects of construction, which require structural engineering expertise to evaluate. Because it is difficult to assess with certainty the amount of TJA's effort that may be required by such an assignment, staff recommends that the proposed Second Amendment to PSA No. 2018-B-082 include a budget in the not-to-exceed amount of \$500,000 for TJA's assistance with the claim reviews. If it is determined that the effort involved in providing this assistance exceeds the budgeted amount, staff will report to the Committee whether the amount set for this effort should be increased.

Staff recommends that the Building and Operating Committee recommend that the Board of Directors authorize the execution of the Second Amendment to PSA No. 2018-B-082, with TJA Engineering, Inc., in the not-to-exceed amount of \$1,340,000, to perform the additional services as presented in this report. TJA will be compensated for actual time expended and expenses incurred. Staff also recommends that a contingency in the amount of \$134,000 be established for any additional scope of services that may develop while work proceeds.

The District's Disadvantaged Business Enterprise (DBE) Program Administrator has determined that TJA is a DBE and will perform 100% of the additional scope of work included in this Second Amendment.

As was previously reported at the August 27, 2020 Building and Operating Committee Meeting and Finance-Auditing Committee Meeting, and at the August 28, 2020 Board of Directors Meeting, staff has performed an analysis of the remaining Project #1526 budget and have determined that continuation of the construction contract administration and construction engineering efforts of Engineering staff and consultants during an estimated additional 38 months of construction through April 2024, including the participation in the claim evaluation and defense efforts, requires an estimated \$23,188,717 increase in the *Golden Gate Bridge Physical Suicide Deterrent System Project*, Project #1526.

The District is working with its funding partners to secure additional funds for Project #1526. In the interim, to continue funding the temporary structures consultant services, staff recommends that the Building and Operating Committee recommend that the Board of Directors approve a \$1,474,000 increase in the budget of Project #1526 to be funded with District reserves.

Staff will present recommendations for budget increases related to the remainder of the extended construction contract administration and construction engineering efforts at future Committee meetings.

Fiscal Impact

The *Golden Gate Bridge Physical Suicide Deterrent System Project* (Project #1526) is included in the FY 2020/21 Bridge Division Capital Budget for Project #1526 at a total cost of \$194,779,868. As shown in Table 1 below, the budget for Project #1526 includes an amount of \$35,140,957 for Engineering staff time and consulting services related to the construction administration and construction engineering. An increase to the Project #1526 budget, as shown on Table 1 below, is required to finance the \$1,340,000 cost of the Second Amendment to PSA No. 2018-B-082 and the \$134,000 contingency, for the total amount of \$1,474,000.

The proposed \$1,474,000 increase in the FY 2020/21 Bridge Division Capital Budget for Project #1526, funded with District reserves, would increase the total amount assigned to the Construction Administration and Engineering Budget Sub-Element to \$36,614,957, and the total Project budget to \$196,253,868.

TABLE 1: PROJECT #1526 BUDGET
GGB Physical Suicide Deterrent System Construction

BUDGET ELEMENT			AMOUNT	PROPOSED ADJUSTMENT	ADJUSTED AMOUNT
Construction Contract:			\$132,563,830	0	\$132,563,830
Construction Contingency:			\$22,405,213	0	\$22,405,213
Supplemental Funds:			\$4,419,868	0	\$4,419,868
Public Outreach:			\$250,000	0	\$250,000
Construction Administration & Engineering:			\$35,140,957		
	CONSTR. ADMIN. & ENGINEERING BUDGET SUB-ELEMENT	AMOUNT			
1	District Staff	\$17,023,991			
2	Construction Engineering Support Amendment 12 PSA 2011-B-2 Resolution No. 2016-089	\$6,600,000			
3	Environmental Compliance PSA 2017-B-09 Resolution No. 2017-002	\$903,152			
4	Interim Construction Scheduling and Claim Support PSA 2017-B-17 GM Report	\$59,600			
5	Construction Scheduling and Claim Support PSA 2018-B-07 Resolution No. 2017-105	\$2,320,164			

6	Steel Fabrication Shop Inspection PSA 2018-B-06 Resolution No. 2017-115, including Amendment 1 Amendment 2, including contingency Total PSA 2018-B-06	\$1,534,500 \$198,000 \$1,732,500			
7	Suicide Deterrent Net System Fabrication Shop Inspection PSA 2018-B-075 Resolution No. 2018-059	\$440,000			
8	Temporary Structures Engineering Advisor Support Services PSA 2018-B-082 Resolution No. 2018-066 <i>Proposed additional amount (this report)</i> <i>Total proposed amount (this report)</i>	\$957,550 <u>\$1,474,000</u> <u>\$2,431,550</u>			
9	Field Inspection Support Services PSA 2018-B- 084 Resolution No. 2018-080	\$4,400,000			
10	Maintenance Traveler System Fabrication Shop Inspection PSA 2019-B- 007	\$704,000			
SUBTOTAL CONSTR. ADMIN & ENG., INCLUDING THE PROPOSED BUDGET INCREASE		<u>\$36,614,957</u>	AVAILABLE AMOUNT: \$35,140,957	PROPOSED INCREASE: \$1,474,000	PROPOSED REVISED AMOUNT: \$36,614,957
TOTAL PROJECT #1526 BUDGET			AVAIL. BUDGET \$194,779,868	PROPOSED INCREASE: \$1,474,000	PROPOSED REVISED BUDGET: \$196,253,868

Table 2: Physical Suicide Deterrent System (SDS) Project Funding Plan

SOURCE OF FUNDS	AMOUNT	PROPOSED ADJUSTMENT	ADJUSTED AMOUNT
MTC-STP Funds	\$67,000,000	\$0	\$67,000,000
Caltrans HBP Funds	\$58,140,000	\$0	\$58,140,000
GGBHTD District	\$62,211,407	\$1,474,000	\$63,685,407
MHSOAC	\$7,000,000	\$0	\$7,000,000
Cell Site Revenues	\$389,736	\$0	\$389,736
Donations	\$38,725	\$0	\$38,725
TOTAL	\$194,779,868	\$1,474,000	\$196,253,868

Table 3: The history of PSA No. 2018-B-082

ACTION	AMOUNT
Award PSA No. 2018-B-082, Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems; Resolution No. 2018-066	\$870,500
First Amendment- additional engineering support services	\$ 87,050 (from contingency)
Proposed Second Amendment, additional engineering support and claim support services	\$ 1,340,000
PROPOSED TOTAL PSA AMOUNT	\$2,297,550

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