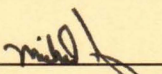
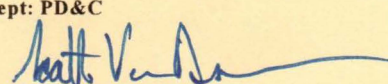
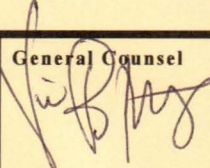
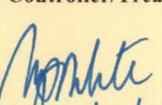
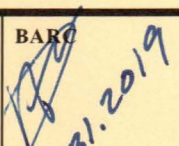




## EXECUTIVE DECISION DOCUMENT

GENERAL MANAGER APPROVAL:  1/2/20		GENERAL MANAGER ACTION REQ'D: Approval		
DATE: 12/13/2019		BOARD INITIATED ITEM: Yes		
Originator/Prepared by: Scott Van Dussen Dept: PD&C  Signature/Date: 12/30/2019	General Counsel  12/20/19 [ ]	Controller/Treasurer  12/31/19 [ ]	District Secretary [ ]	BART  12.31.2019 [ ]
Status: Routed		Date Created: 12/13/2019		

### AWARD OF CONTRACT NO. 49GH-110 FOR DESIGN-BUILD OF A COMMUNICATIONS BASED TRAIN CONTROL SYSTEM

#### PURPOSE:

To request Board Authorization for the General Manager to award Contract No. 49GH-110 for Design-Build of a Communications Based Train Control System to Hitachi Rail STS USA, Inc. for the amount of \$798,551,928 and to exercise Option 3 for the Silicon Valley Berryessa Extension for \$56,168,590 and Option 4 for the Silicon Valley Santa Clara Extension for \$25,736,514. In addition, the General Manager requests Board authorization to execute a Stipend Agreement with Alstom Signaling Inc. for the amount of \$1,000,000.

#### DISCUSSION:

In an effort to improve reliability, maintainability, reduce costs, and increase the frequency of trains through the Transbay Tube (TBT), the Board directed staff to undertake a Train Control Modernization Program (TCMP) using Communications Based Train Control (CBTC) technology on December 3, 2015. The Board authorized the General Manager to issue solicitation documents for a CBTC System using the Design-Build method of procurement, pursuant to Public Contract Code Section 22160 et seq. As discussed further below, this led to issuance of the Request for Qualifications and Proposals (RFQ/P) for Contract No. 49GH-110 on August 17, 2017.

CBTC technology will replace the existing fixed-block train control system, which has been BART's method of train control since the commencement of revenue service forty-seven years ago. Fixed-block technology is based on traditional signal and track circuit equipment to control train movement and relies on widely spaced signal blocks to denote train



occupancy. This contributes to longer distances between trains, and increased travel times and headways. CBTC technology uses communications equipment to more precisely detect a train's location, leading to more efficient train movement, increased reliability, less travel time, shorter distances between trains, and decreased headways. These improvements are consistent with the overall goals of the TCMP: to achieve a state of good repair, to increase core system passenger-carrying capacity, and to improve train control system reliability, availability and maintainability.

On November 19, 2016, the Board adopted the TCMP as one of BART's four projects within the Transbay Corridor Core Capacity Project (TCCCP), a \$3.5 billion comprehensive and coordinated package of investments funded in part by the Federal Transit Administration's (FTA's) Capital Investment Grant program, which will lead to increased train frequencies between San Francisco and Oakland by more than 36% and increase overall capacity by approximately 45%. This will allow BART to operate 28 ten-car trains per hour on the Core Capacity Corridor, maximizing throughput in the most heavily used part of the BART System.

The TCMP is exempt from the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21080(b)(10) which exempts projects that increase passenger or commuter services on rail rights of way already in use.

On September 14, 2017, the FTA concurred with the District's analysis that the TCCCP meets the criteria for a National Environmental Protection Act (NEPA) categorical exclusion in accordance with 29 CFR Part 771.118 (subsections (c)(1) power substations and other discrete utilities within or adjacent to existing right of way; (c)(5) installation and improvement of safety and communication equipment within or adjacent to existing right of way; (c)(7) acquisition of rail cars that can be accommodated by existing facilities or by new facilities that qualify for categorical exclusion; and (c)(12) projects within existing operational right of way including transit power substations and transit venting structures.)

#### Issuance of Request for Qualifications and Proposals

Contract No. 49GH-110, Design-Build of a CBTC System (CBTC Contract), consists of furnishing all management and technical services including coordination, professional services, labor, equipment, materials, safety certification, training and manuals, spare parts, and other services to perform the design, manufacture, installation, testing and commissioning, and handover of the turnkey communications based train control system for BART. The Work includes related vehicle carborne equipment (310 D-cars), wayside, communications, and Operation Control Center's (OCC's) Automated Train Supervision (ATS) Systems work. The Contract performance period is expected to be approximately 11 years from Notice To Proceed.

On March 13, 2017, the District issued the Advance Notice to Proposers of the District's



Request for Qualifications and Proposals (RFQ/P) for Contract No. 49GH-110 and the accompanying Contract No. 49GH-120 for Train Control Performance Support Services (TCPSS) (that is separately being submitted to the Board for award) to prospective CBTC Design-Build Entities. The same Advance Notice was issued to the small business community. On March 15, 2017, the District advertised the RFQ/P in the following publications: San Francisco Examiner, Inter-City Express, Progressive Railroading, Railway Gazette International, and the American Public Transportation Association (APTA) newsletter.

In total throughout the procurement process, the Office of Civil Rights hosted three (3) Networking / Matchmaking Sessions for potential Third Parties on March 30, 2017, September 6, 2017, and May 30, 2018.

Due to the vital safety features of the CBTC System, the RFQ/P is designated as a Security Sensitive Information (SSI) Contract. Accordingly, prospective firms completed the SSI Clearance prior to being issued the RFQ/P Documents on August 17, 2017.

On October 17, 2017, the District received Qualification Statements from seven (7) Design-Build Entities and commenced its Qualification evaluation.

The District's Evaluation Committee, chaired by Procurement/Contract Administration, included representatives from the Planning, Development, and Construction (PD&C), Maintenance and Engineering (M&E), Operations Planning, Rolling Stock and Shops (RS&S), Transportation, Risk and Insurance Management, Office of Civil Rights (OCR), and Performance and Audit Departments who evaluated the Qualification Statements and the Proposals including Best and Final Offers (BAFOs).

On January 5, 2018, the General Manager notified the BART Board of Directors of the Preliminary Notice of Approved Prequalified Proposers which included Thales Transport & Security, Inc. (Thales), Alstom Signaling, Inc. (Alstom), and Ansaldo STS USA, Inc. (subsequently known as Hitachi Rail STS USA, Inc. (Hitachi)). The Final Notice of Approved Prequalified Proposers was sent to the Prequalified Proposers on May 1, 2018.

On May 30, 2018, a Pre-Proposal Conference and Site Tour were conducted for Pre-Qualified Proposers and Systems Equipment Installers.

On March 19, 2019, Technical and Price Proposals were received from Alstom and Hitachi. Due to ongoing commitments, Thales chose to withdraw prior to the Proposal Due Date. The Evaluation Committee, [with the addition of representatives from two (2) peer agencies], completed reviews of the Technical and Price Proposals and determined both Proposals to be responsive. A series of clarification and negotiations meetings with both Alstom and Hitachi were held in June and July 2019.

#### Proposal Evaluation Methodology and Criteria



The RFQ/P required the District to evaluate Proposals based on a best value method of procurement to determine the Proposals that are the best value to the District. The best value methodology allows the Evaluation Committee to evaluate price in combination with other criteria listed below consistent with the Design-Build statute, and in accordance with the District's Source Selection Plan (SSP).

The RFQ/P listed the technical evaluation criteria in the following descending order of importance:

1. Migration Plan.
2. Systems Performance Analysis.
3. System Design / Specifications Compliance.
4. Management Approach.
5. Train Control Performance Support Services Approach.
6. Reliability, Availability and Maintainability (RAM) Analysis.

The Technical Proposals were rated in accordance with a descriptive method: 1) Exceptional, 2) Good, 3) Acceptable, 4) Potential to Become Acceptable, and 5) Unacceptable. A proposal would be excluded from further review if it was rated Potential to Become Acceptable or Unacceptable.

Following the completion of the Technical Proposal Evaluation, those Proposals found to be rated Acceptable or better underwent an evaluation of their Price Proposals. Price evaluations include a comparison against the Engineer's Estimate for the CBTC Contract.

#### Evaluation of Best and Final Offers

A Modification for a Request for Best and Final Offers (BAFOs) was issued on September 5, 2019. In response, BAFOs were received on October 22, 2019 from both Alstom and Hitachi.

Both Alstom and Hitachi's BAFO Technical Proposals (for both the CBTC Contract and for the TCPSS Contract) were determined to be responsive in that all required forms and certifications, including Buy America Certificates, were provided.

The Evaluation Committee evaluated the BAFO Technical Proposals from Alstom and Hitachi as follows:

Alstom's BAFO Technical Proposals were rated Unacceptable regarding three criteria: Management, Migration, and TCPSS. Therefore, in accordance with the Instructions to Proposers, Alstom's BAFO Price Proposals were not opened for review.

Hitachi's BAFO Technical Proposals were rated Good Minus overall. Hitachi provided



better than acceptable quality Proposals meeting all of the technical evaluation criteria listed above, thus instilling confidence of successful Contract performance. Hitachi's BAFO Price Proposals were subsequently opened for review. The CBTC BAFO prices are shown below.

**Table 1 – CBTC BAFO Base Proposal Price Plus Allowances and Options**

	Hitachi Price Proposal	Engineer's Estimate	Difference
CBTC BAFO Base Proposal Plus Allowances	\$798,551,928	\$851,698,430	\$53,146,502
CBTC BAFO Option 1 – Roadway Worker Protection Device	\$357,117		
CBTC BAFO Option 2 – DELETED			
CBTC BAFO Option 3 – VTA Phase I	\$56,168,590		
CBTC BAFO Option 4 – VTA Phase II	\$25,736,514		
CBTC BAFO Base Proposal Plus Allowances and Options 1, 3, and 4	\$880,814,150	\$967,448,430	\$86,634,280

Hitachi's CBTC BAFO Base Price Proposal is \$53,146,502 less than the Engineer's Estimate of \$851,698,430. In addition, Hitachi's CBTC BAFO Price Proposal including Options 1, 3, and 4 is \$86,634,280 less than the Engineer's Estimate of \$967,448,430. After a detailed price evaluation of all BAFO price items contained in the Price Proposal, the Evaluation Committee determined Hitachi's CBTC BAFO Price Proposal to be fair and reasonable.

The Evaluation Committee determined that Hitachi's BAFO Technical Proposals and approach met the requirements specified in the RFQ/P and that Hitachi is a responsible Proposer based on the requirements of the RFQ/P.

#### Buy America Compliance

The CBTC Contract is subject to Buy America provisions required of public transit agencies by the FTA. Hitachi submitted both completed Buy America certificates for the CBTC Contract indicating compliance as follows:



1. Buy America Certification Requirement for Procurement of Rolling Stock and Associated Equipment, at 70% minimum domestic content.
2. Buy America Certification Requirement for Procurement of Steel, Iron, or Manufactured Products, at 100% domestic content.

### Disadvantaged Business Enterprise

The Design-Build RFQ/P was advertised pursuant to the District's Disadvantaged Business Enterprise (DBE) Program requirements. The Office of Civil Rights reviewed the scope of work for this Contract and determined that there were DBE subcontracting/subconsulting opportunities; therefore, a DBE participation goal of 5% was set for this Contract. The Proposer, Hitachi, committed to subcontracting 5.1% to DBEs. The Office of Civil Rights has determined that Hitachi has met the DBE participation goal commitment set for this Contract.

### **District staff recommends award of the CBTC Contract No. 49GH-110 to Hitachi.**

Separately, staff is recommending award of the TCPSS Contract No. 49GH-120 to Hitachi be made concurrent with the award of Contract No. 49GH-110. This is discussed in more detail on the accompanying EDD for award of Contract No. 49GH-120.

### Stipend Agreement

The RFQ/P includes a Stipend Agreement in the amount of \$1,000,000 to be paid by the District under certain stated conditions to the responsive Proposers who were not selected for award. If Alstom does not protest the recommended award, it will be entitled to request issuance of the \$1,000,000 stipend. Staff requests that the Board authorize the General Manager to execute the Stipend Agreement with Alstom.

### **FISCAL IMPACT:**

### **FUNDING AVAILABLE TO AWARD CBTC CONTRACT NO. 49GH-110 BAFO BASE PROPOSAL AND STIPEND AGREEMENT**

Funding of \$798,551,928 for award of Contract 49GH-110 is included in the total project budget for 49GH, Train Control Modernization Program (TCMP). An additional \$1,000,000 for a Stipend Agreement is also included in the total project budget for 49GH, TCMP.

Table 2 below lists current funding assigned to the referenced project and is included to track funding history against spending authority. Table 3 below lists funding that has been programmed, but not yet allocated to, the referenced project. Table 4 below lists funding for the referenced project that is pending a Full Funding Grant Agreement (FFGA) with FTA.



Funds needed to meet this request will be expended from the following current, programmed and pending sources:

**Table 2 - Current Funding**

Federal Funds	\$19,883,421
Local	\$1,035,542
Measure RR	\$26,000,000
BART Funds	\$11,093,406
<b>TOTAL</b>	<b>\$58,012,369</b>

As of December 12, 2019, \$58,012,369 is the current available budget for this project. BART has expended \$47,479,329, committed \$7,683,883, and reserved \$0 to date. This action will commit \$2,849,157 leaving an available fund balance of \$0 in these fund sources for this project.

The remaining \$795,702,771 will come from a combination of Programmed and Pending funds, as shown in Table 3 and Table 4 below. The \$397,240,488 of FTA Capital Investment Grant (CIG) funds is anticipated to be programmed as part of a \$1.169 billion FFGA for the Core Capacity Program (CCP) in the first quarter of calendar year 2020.

**Table 3 – Programmed Funding**

Federal Funds	\$49,100,000
TIRCP	\$318,600,000
Measure RR	\$374,000,000
BART Funds	\$41,832,374
<b>TOTAL</b>	<b>\$783,532,374</b>

**Table 4 – Pending Funding**

FTA CIG Funds	\$397,240,488
<b>TOTAL</b>	<b>\$397,240,488</b>

This action will authorize the General Manager to commit \$798,551,928 with Hitachi for CBTC Contract No. 49GH-110, contingent upon execution of the FTA CIG FFGA and subject to concurrence by the Controller-Treasurer that funding is secured.



This action further authorizes the General Manager to execute a Stipend Agreement for \$1,000,000 with Alstom.

### **ADDITIONAL FUTURE FUNDING FOR TCMP**

The District continues to pursue additional funding of approximately \$288M from State and local sources to fully fund the TCMP Project, excluding the VTA components fully described below. Without this funding, the project has sufficient funding to cover Design Services During Construction (DSDC), Construction Management (CM), and BART soft costs for more than seven years.

While this additional future funding is not needed to award CBTC Contract No. 49GH-110 DB BAFO Base Proposal, it is necessary to fully fund DSDC, CM, and BART soft costs through completion. Awarding this Contract commits BART to fully implementing the TCMP, excluding Option 3 and Option 4.

These actions are not anticipated to have any Fiscal Impact on unprogrammed District reserves.

### **FUNDING TO EXERCISE CBTC CONTRACT NO. 49GH-110 OPTION 3 AND OPTION 4**

The exercise of CBTC Contract No. 49GH-110 Option 3 for the Silicon Valley Berryessa Extension and Option 4 for the Silicon Valley Santa Clara Extension will be contingent upon the Controller-Treasurer certifying that full funding of those Options has been secured from the Santa Clara Valley Transportation Authority (VTA).

### **ALTERNATIVES:**

Not proceed with award of the Contract at this time and re-advertise the RFQ/P. This would entail the loss of up to \$318.6 million Transit and Intercity Rail Capital Program (TIRCP) funds already awarded to the project and the likely loss of the pending \$1.169 billion FTA CIG grant. The loss of the TIRCP and FTA CIG funds would impact not only the TCMP, but also the procurement of Core Capacity Program rail vehicles, construction of rail vehicle storage and other improvements at the Hayward Maintenance Complex, and construction of Traction Power Substations. Among other things, this will leave the District with its existing aging Automatic Train Control System.

### **RECOMMENDATION:**

Adoption of the following motions:



**MOTION:**

1. The General Manager is authorized to award Contract No. 49GH-110 for the Design-Build of a Communications Based Train Control System to Hitachi Rail STS USA, Inc. for the price of \$798,551,928, (including all taxes) upon certification by the Controller-Treasurer that funding is available, pursuant to notification to be issued by the General Manager and subject to the District's protest procedures and FTA's requirements related to protests. The General Manager is further authorized to exercise Option 3, Silicon Valley Berryessa Extension, and Option 4, Silicon Valley Santa Clara Extension, to Contract No. 49GH-110, for \$56,168,590 and \$25,736,514, respectively, subject to escalation and upon certification by the Controller-Treasurer that funding is available.
2. The General Manager is authorized to execute a Stipend Agreement with Alstom Signaling, Inc. in the amount of \$1,000,000 subject to compliance with the conditions specified in the Request for Qualifications and Proposals, and upon certification by the Controller-Treasurer that funding is available.