

**Work Plan A.04-01 49GH008 - Jacobs - CBTC Construction Management Oversight Services**

**Scope:**

Specific duties and responsibilities shall include the following:

**a) Task #1: Inspection of Contractor's Work**

1. Prepare Inspector Daily Reports (IDRs) that document the activities performed by the Contractor on the shift inspection services are provided. IDRs are to be prepared using WongCMS. IDRs shall document/include:
  - a. Progress of Work categorized by Bid Item.
  - b. List of BART Operations Liaison Employees in Charge working the shift inspected.
  - c. List of Contractor Equipment performing the work.
  - d. List of Contractor Employees performing the work.
  - e. Photos documenting progress of work.
2. Prepare Non-Conformance Reports (NCRs) and ensure that non-conforming work is brought into compliance with the Contract Documents.
3. Monitor work performed on Force Account basis. Sign Daily Extra Work Reports (DEWRs) that list materials, equipment, and labor associated with Force Account work.

**b) Task #2: Review Contractor's Testing and Commissioning Activities**

Review Contractor's Testing and Commissioning Test Procedures for CBTC equipment for conformance to Contract Documents. Ensure factory, integrated, site acceptance, and site integration test procedures and pass/fail criteria appropriately demonstrate functionality of CBTC systems. Confirm that appropriate metrics to demonstrate functionality are incorporated into test report forms. Distribute test procedures to appropriate District personnel for review and concurrence. Facilitate discussion between Contractor and CBTC District project and external stakeholders to ensure test procedures deliver intended design functionality and interface with existing system with no disruption to normal revenue service. Evaluate TAC activity sequence to ensure every stage of TAC test or activity avoids disruption to normal revenue service.

Witness Factory Acceptance Tests (FATs), Integrated Factory Acceptance Tests (iFAT), Site Acceptance Testing (SAT), and Site Integration Testing (SIT). Ensure Contractor accurately records test results. Assist Contractor in troubleshooting CBTC equipment for failed tests. Secure appropriate District personnel to witness off and onsite TAC activities.

Manage and schedule TAC resources to ensure appropriate project Subject Matter Experts (SMEs) (Consultant and District) are available to witness off and onsite TAC activities. Coordinate with System Access to secure appropriate BART maintenance personnel to support TAC activities.

**c) Task #3: Receive, Distribute, Review, and Respond to Contractor Submittals and Request for Information (RFIs)**

Receive, distribute, review, and respond to Contractor's Submittals and RFIs. Archive responses on Project's Document Management System (DMS). Specific tasks for Submittals and RFIs are listed below.

Submittals

Confirm Design Contract Data Requirement List Submittals (CDRLs) conform to the Contract Technical Requirements. Review Migration Design Review (MDR) CDRLs confirming their constructability in relationship to the constraints working under the District's Operating Rules and Procedures. MDR CDRLs become Issued for Construction (IFC) Plans and Specifications. Distribute CDRLs and IFC Submittals to appropriate Project Team Subject Matter Experts (SMEs). Consolidate multiple reviewer comments into one master comment resolution forms. Facilitate discussion between multiple discipline reviewers to resolve conflicting comments.

RFIs

Review and distribute RFIs to appropriate SMEs for technical response. Once technical response is received, review and determine if technical response initiates a change to the Contract. If response does initiate change, confer with technical staff if change is necessary or if another means exists to address RFI that avoids a change to Contract.

**d) Task #4: Construction Contract Change Management**

Determine merit and respond to Contractor's request for additional compensation and Notice of Potential Claims.

Prepare Change Notices and Change Orders in conformance with BART's Design-Build Oversight Management Manual.

Specific tasks include:

1. Prepare Finding of Fact (FOF) confirming reason for change and describing scope of work associated with change.
2. Prepare Engineer's Estimate (EE) showing detailed breakdown of cost for change. Cost should be determined based on a resource approach showing the following items associated with additional work: materials, equipment, and labor hours.
3. Prepare Pre-Negotiation Plans (PNPs) documenting approach CM will take in negotiating costs of Change with Contractor. PNPs will compare EE vs. Contractor's Cost Proposal and document differences between the two. JACOBS RE to establish Proposed Settlement Range in PNP.
4. Prepare Record of Negotiation (RON) documenting agreements and commitments made between CM and Contractor regarding Change Order. RON to detail discussion regarding Direct Labor, Material, Equipment, Mark-Ups, Unit Price (if applicable), Time, and DBE Participation.
5. Review and Audit Extra Work Bills (EWBs) associated with Force Account (FA) Change Order work furnished by Contractor. Confirm resources listed in EWB matches associated DEWR and that costs reported on EWB conforms to Contract.
6. Provide monthly report on status of Construction Contract Contingency. Monthly report to identify magnitude of pending Change Orders, anticipated Change Orders, and potential Change Orders. Include accruals of Change Orders performed under Force Account in Monthly.

**e) Task #5: Site Specific Work Plan (SSWP)/Track Allocation/ and other Intra-BART Coordination**

Review SSWPs for Contract compliance. Forward to Operations Supervisor Liaison (OSL) with recommended list of District reviewers. Consolidate SSWP reviewer comments into common CRF, issue to Contractor, and confirm comments are satisfactorily addressed. Prepare System Allocation Requests (SARs) compatible with the activities shown on Contractor's four (4) week look-ahead schedule. Prepare exhibits with effective graphical tools (CADD/VIZIO/Bluebeam/Adobe Acrobat/etc.) to convey train movements, system protections, electrical lock out/tag out locations, required active third rail circuits to support installation and TAC activities and to assist District with developing Interim Operating Procedures (IOPs).

Process requests for Contractor Photo Identification (Red) Badges and clearances for Sensitive Security Information (SSI). Maintain log of Badge/Clearance status. Coordinate Contractor's work with other BART Capital Projects concurrently performing work in active construction CBTC areas. Respond to internal RFI's from other BART Capital Projects. Furnish documents upon request from other District Departments, including Operations and System Safety.

**f) Task #6: Review Contractor Schedule Updates / Time Impact Evaluations (TIEs)**

Review Contractor Schedule Updates to determine Critical Path on monthly basis. Identify deficiencies in Contractor's actual progress compared to planned progress. Determine if deficiencies are due to owner, contractor, or differing site condition. Review Contractor's Time Impact Evaluations and determine if Contractor's request for extension in Contract Time is correct in magnitude, excusable or not excusable, and compensable or non-compensable.

**g) Task #7: Review/Prepare, and Process Contractor's Progress Pay Application**

Determine appropriate level of progress per month per Bid Item based on IDRs and SME input. Use determination of progress to prepare monthly Progress Pay Application. Maintain log of monthly expenditure per Bid Item and Schedule of Values.



- h) **Task #8: Dispute Review Board (DRB) Support / Claims Mitigation**  
Maintain and update exhibits for DRB project status reports. Provide District guidance and recommendation on best approach to address/resolve Contractor Notice of Potential Claims (NOPCs). Prepare position papers and exhibits supporting District disposition regarding NOPCs if brought to DRB for a hearing.
- i) **Task #9: Project Controls**  
Develop and maintain Project Estimate at Completion (EAC). Gather, evaluate Project cost data monthly and update EAC accordingly. Accrue Consultant billings and incorporate into EAC monthly updates. Develop a project controls dashboard that can convey EAC trends to external project stakeholders such as the Assistant General Manager (AGM) of Office of Infrastructure Delivery (OID) and Federal Transit Administration's (FTA's) Project Management Oversight Consultant (PMOC). Notify District management team of trends that indicate an increase in budget or a need to secure additional funding.
- j) **Task #10: Document Control**  
Receive, categorize, and post onto DMS all project correspondence from Contractor. Categorize and release all District Correspondence to the Contractor via DMS. Provide weekly updates on project correspondence status, indicating what documents are under review and when response is due back to Contractor.
- k) **Task #11: Risk Management**  
Maintain Project Risk Register on monthly basis. Provide status updates on identified risks. Insert new risks as identified by project Work Group Leads. Assign score to each risk based on FTA guidelines. Assist Work Group Leaders in developing appropriate and actionable risk mitigation measures. Monitor risk mitigations and measure their efficacy. Recommend corrections to ineffective risk mitigations. Quantify risk to determine how it influences the EAC.
- l) **Task #12: Quality Assurance / On-Site Acceptance Testing Inspection**  
Track Contractor adherence to accepted Quality Assurance Program (QAP). Quality Assurance is to cover both Contractor's design and construction activities. Perform audits evaluating Contractor's performance on quality initiatives and requirements. Report findings and observations and non-conformance reports to District. Request Corrective Action Plans (CAPs) from contractor as needed to address audit findings. Maintain log of non-conformance reports and confirm when corrective actions are complete.
- m) **Task #13: Work Plan Management**  
Manage Construction and Project Management staff resources. Monitor quality of services and personnel and adjust/improve as necessary. Provide staff as requested by BART. Prepare monthly reports for Construction and Project Management Services listing activities and services performed and completed in the reporting period. Monthly report should indicate monthly expenditure trend and provide a forecast when workplan will be exhausted.

### 3. Quality Assurance

The purpose of Quality Assurance/Quality Control (QA/QC) Plan is to ensure the work product prepared for the Project by Jacobs meet applicable professional guidelines and standards. Jacobs will utilize existing QA/QC Plan to follow, support, implement, and enforce the Construction Contract requirements for the Project. The QA/QC Plan should conform to the requirements set forth in the District's Quality Management Plan (QMP) for the TCCCP

that are applicable to Construction Management (CM) Oversight activities. The QA/QC Plan should also follow the Federal Transit Administration (FTA) Quality Management System Guidelines, dated December 2012, FTA-PA-27-5194-12.1. The following should be used as guidance for adherence:

1. Implement a Quality Assurance Program that validates the quality control methods adopted by the Contractor.
2. Conform to procedures stated under the District's Design-Build Oversight Manual PF-21.
3. Perform Audits on District's and Contractor's adherence to QA/QC Plans and provide findings and recommendations to improve adherence.
4. Issue Non-Conformance Reports as needed based on audit findings.

**Prime: Jacobs Project Management Co.**

<b>Subconsultant</b>	<b>Amount</b>	<b>DBE (Y/N)</b>	<b>SBE (Y/N)</b>
Gannett Fleming	\$ 879,910	N	N
SEM Incorporated	\$ 1,209,248	N	Y
Montez Group, Inc.	\$ 1,068,204	Y	Y
M. Lee	\$ 29,905	Y	Y
RSE	\$ 295,476	Y	Y

**Total Work Plan Value: \$ 8,462,519**