**MINI-MONTHLY REPORT**

**JANUARY 31, 2014**

**Central Subway Project**

San Francisco Municipal Transportation Agency (SFMTA)

San Francisco, CA

Draft Report delivered to FTA February 6, 2014

Final Report delivered to FTA February 18, 2014

PMOC Contract No.: DTFT60-09-D-00015

Task Order No. 3

Project No.: DC-27-5139

Work Order Number: 006

OPs Referenced: 01, 20, and 25

CLIN 0002B

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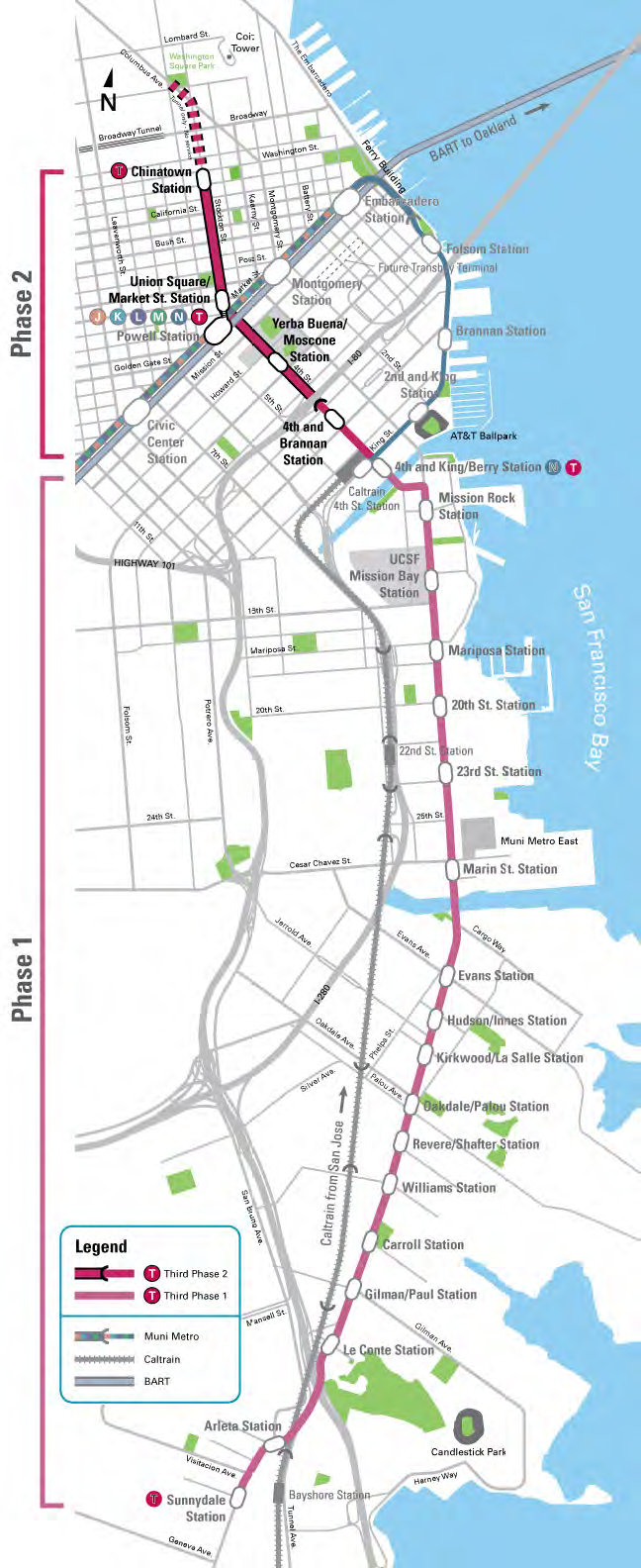
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**EXECUTIVE SUMMARY**

**CENTRAL SUBWAY**

**PROJECT DESCRIPTION**

****

The Central Subway Project (CSP) will construct a modern, efficient light-rail line that will improve public transit in San Francisco. This new 1.7-mile extension of Muni’s T Third Line will provide direct connections to major retail, sporting and cultural venues while efficiently transporting people to jobs, educational opportunities, and other amenities throughout the city. The CSP is Phase 2 of the San Francisco Municipal Transportation Agency’s (SFMTA) Third Street Light Rail Transit Project. Phase 1 of the project constructed a 5.1-mile light-rail line along the densely populated 3rd Street corridor. It began revenue service in April 2007, restoring light-rail service to a high transit ridership area of San Francisco for the first time in 50 years. The CSP will extend the T Third Line from the 4th Street Caltrain Station to Chinatown, providing a direct, rapid transit link from the Bayshore and Mission Bay areas to SoMa, Union Square, and down-town.

Four new stations will be built along the 1.7-mile project alignment—an above-ground station at 4th and Brannan streets and three underground stations at Yerba Buena/Moscone Centers, Union Square, and Chinatown. Four light rail vehicles (LRVs) will be procured for the CSP. Ridership is projected at 43,521 Average Weekday Boardings in 2030.

**PROJECT STATUS**

**Full Funding Grant Agreement (FFGA)**

The FFGA was signed on October 11, 2012.

**Design and Construction**

Design

* All designs are complete.

Construction

Contract 1250 [Utility Relocation (UR) #1].

* Work is complete. Closeout continues.

Contract 1251 (UR #2).

* Work is complete. Closeout continues.

Contract 1252 Tunnel.

* Work is 73 percent complete, based on Expenditures to date.
* Tunnel Boring Machine (TBM) #1 (southbound) launched on July 22, 2013, and reached Sutter Street (approximately Sta. 123) at the end of January 2014.
* TBM #2 (northbound) launched on October 25, 2013, and crossed under Market Street and the Bay Area Rapid Transit (BART) tunnels at the end of January 2014.
* Site work on the North Beach retrieval shaft and sound walls began on September 25, 2013, after demolition of the Pagoda Theater.
* Installation of tube-a-manchettes is complete and pre-grout activities are currently underway for protection of surrounding structures. The first level of shaft excavation should be complete by the end of January 2014.

Contract 1300 Stations and Systems/Trackwork.

* Notice to Proceed (NTP) was issued on June 17, 2013.
* Demolition of the existing structures at both the Chinatown Station (CTS) and Yerba Buena/Moscone Station (YBM) headhouses were completed by the end of November 2013.
* YBM: The contractor started on the first of two Test Barrettes.
* Union Square/Market Street Station (UMS): Pedestrian barricades were set up on Stockton Street and the street was closed between Geary and Ellis. Pile guide wall preparations have begun.
* CTS: Utility relocations on Stockton and Washington streets have been completed. Slurry wall guide walls have begun.
* Surface, Track, and Systems (STS): Utility potholing began in late January 2014.

**Schedule**

The Revenue Service Date (RSD) remains unchanged at December 26, 2018.

The December 2013 project schedule reflects 4.8 months of buffer float, which is below the minimum agreed to level of 8.0 months of schedule contingency at this phase of the project.

**Cost**

Cost Estimate: $1.5783 billion

Total Contingency: $68.75 million (minimum contingency is $140 million)

Total net incurred costs: $465 million (29.4 percent of the total project budget)

Current funding level: $785.4 million (50 percent of the total project budget)

**TOP ISSUES AND RECOMMENDATIONS**

* The recent monthly cost reports prepared by the CSP were found to have numerous unexplained changes. The Project Management Oversight Contractor (PMOC) has notified CSP to make corrections and provide details for budget changes. Numerous discussions have taken place, and the CSP has determined that they will revise the format of the Cost Reporting Summary sheet to improve overall reporting. The PMOC understands that the CSP will provide two new spreadsheets to report on costs, changes, and contingencies, as required by the Federal Transit Administration (FTA). As of January 31, 2014, the PMOC had not received the revised Cost Reporting Summary explaining the numerous budget adjustments.
* It is important that the CSP team highlight and identify changes from the previous cost report. This maintains a project cost narrative throughout the term of the project. FTA requires that project monthly cost reports be produced in the FTA standard cost category (SCC) format to allow comparisons to be made to assigned budget amounts and to show changes to these cost codes as the project develops through to completion.
* Numerous Change Order Requests (CORs), some dating back to early 2012, have yet to be resolved between the contractor and SFMTA.
* At this time, the Contract 1300 Baseline Schedule has only been partially submitted by the contractor. The CSP has incorporated the Contract 1300 Bid Schedule and unapproved station activities into the current Master Project Schedule (MPS).
* In October 2013, the CSP submitted the Draft Contingency Management – Schedule Update, which proposed changes to the schedule contingency minimum levels based on a recent risk assessment performed by the Central Subway team. The team used risk-based software, which employs the Monte Carlo method, to perform a probability analysis on the Project’s Summary Schedule. At this time, the PMOC cannot recommend that FTA accept any modification to schedule contingency minimum levels. The PMOC recommends that the CSP incorporate the Contract 1300 Baseline Schedule as soon as it is approved. At that time, the PMOC recommends that the CSP incorporate the remaining high level schedule risks on the Project Risk Register into a new risk assessment.
* The current project schedule reflects 4.8 months of contingency, which is below the minimum agreed to schedule contingency level of 8.0 months.
* It is the PMOC’s opinion that the CSP is understaffed in the following positions: Inspectors, Office Engineers (OEs), and Cost/Schedule support staff. The PMOC recommends hiring these new employees as soon as possible.
* FAR 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels requires the use of U.S. flag vessels for at least 50 percent of the cargo from foreign ports. The tunnel contractor, Barnard Impregilo Healy JV (BIH), did not comply with said requirement. BIH has provided documentation, including the ocean carrier’s freighted bills of lading, to the U.S. Maritime Administration (MARAD). MARAD is currently considering imposing some type of corrective action on BIH.

Table 1 shows FTA core accountability items for the CSP.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 1: Core Accountability Items** | | | | |
| **Project Status:** | | | **Original at FFGA:** | **Current Estimate:** |
| **Cost** | Cost Estimate | | $1,578,300,000 | $1,578,300,000 |
| **Contingency** | Unallocated Contingency | | $74,722,000 | $5,992,767 |
| Total Contingency  (Allocated plus Unallocated) | | $185,500,000 | $68,752,113 |
| **Schedule** | Revenue Service Date | | 12/26/2018 | 12/26/2018 |
|  | | | | |
| **Total Project Percent Complete** | Based on Expenditures | | 29.4% | |
| Based on Earned Value | | 30.3% | |
|  | | | | |
| **Major Issues** | **Status** | | **Comments/Planned Action** | |
| Schedule Contingency | Project schedule contingency is currently at 4.8 months. | | The minimum schedule contingency agreed to at this stage of the project is eight months. The CSP recently submitted justification to decrease the minimum required, but this has not been accepted. | |
| Cost Reporting | The CSP has agreed to revise the format of the cost summary spreadsheet and provide details for cost changes. | | The June 2013 summary cost report prepared by the CSP was found to have numerous unexplained changes. | |
| TC&C | It is the PMOC’s opinion that the CSP is understaffed for the following positions: Inspectors, OEs, and Cost/Schedule support staff. | | One Inspector was hired in January, but several more are needed. Only one of the four OEs is currently in place. Two Cost/Schedule support staff persons were let go in early January and may not be replaced. | |
| **Date of Next Quarterly Meeting:** | | April 23, 2014 | | |

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**CENTRAL SUBWAY**

**A. GRANTEE’S CAPABILITY AND APPROACH**

1. **Technical capacity and capability to conduct the project**

**Assessment Status.**

An updated staffing plan (October 2013 to March 2014) was provided to the PMOC on October 13, 2013. The PMOC provided comments and the CSP submitted a revised version on November 19, 2013. The PMOC has requested updated staffing plans be submitted by the Grantee each quarter. The most recent was due on January 31, 2014.

The PMOC is monitoring the staffing needs for Contract 1300 and reviewing resumes of potential new hires.

**PMOC Concern: It is the PMOC’s opinion that the CSP is understaffed in the following positions: Inspectors, OEs, and Cost/Schedule support staff. While the bulk of work for Contract 1300 will not occur until after the first of the year, there is a significant amount of information with which the newly hired staff will need to become familiar. The PMOC recommends hiring these new employees as soon as possible.**

1. **Use of project controls for scope, quality, schedule, cost, risk, and safety**

SFMTA is currently implementing a new Capital Program Control System in an effort to integrate existing systems with new software modules. The new system is comprised of Primavera P6, EcoSys Enterprise Planning and Controls (EPC), Contract Management 13 (CM13), and SharePoint. The system went live on December 13, 2012.

**PMOC Concern: The CSP is experiencing problems with the Cost Reporting information coming from the EcoSys EPC database. This is affecting the cost reporting and causing the staff to manually input data. At this time, the CSP has abandoned the cost information coming from EcoSys EPC. The last complete Cost Report was provided by the CSP in May 2013.**

Refer to Sections D, E, and F for detailed discussion.

1. **Compliance with applicable statutes, regulations, guidance, and FTA agreements**

FAR 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels requires the use of U.S. flag vessels for at least 50 percent of the cargo from foreign ports. The tunnel contractor, BIH, did not comply with said requirement. BIH has provided documentation, including the ocean carrier’s freighted bills of lading, to MARAD. MARAD is currently considering imposing some type of corrective action on BIH.

**B. PROJECT SCOPE**

1. **Status and quality of design/construction documents, bidding, and construction status**

**Design.**

All designs are complete.

**Construction.**

*Contract 1250 (UR #1).* This contract relocates utilities within the footprint of the proposed YBM.

* Work is complete.

*Contract 1251 (UR #2).* This contract relocates utility lines within the footprint of the proposed UMS and temporarily reroutes existing trolley coach lines around the future construction zone.

* Work is complete.

*Contract 1252 Tunnel.*

* TBM #1 (southbound) launched on July 22, 2013, and reached Sutter Street (approximately Sta. 123) at the end of January 2014. TBM #2 (northbound) launched on October 25, 2013, and crossed under Market Street and the BART tunnels (approximately Sta. 137) at the end of January 2014.
* TBM #1 had a very successful undercrossing of the BART tunnels over Thanksgiving weekend. There was little to no movement detected in any of the monitoring equipment.
* The Ellis Street shaft is complete and numerous compensation grout pipes have been installed to protect the BART tunnels and nearby buildings. The contractor is prepared to inject grout if needed as the TBM passes through the shaft.
* Site work on the North Beach retrieval shaft and sound walls began on September 25, 2013, after demolition of the Pagoda Theater. Installation of tube-a-manchettes is complete and pre-grout activities are currently underway for protection of surrounding structures. The first level of shaft excavation should be completed by the end of January 2014.
* The Green Street shaft tube-a-manchettes have been installed.
* Slip lining of existing brick sewer lines in North Beach has been put on hold. The contractor discovered Auxiliary Water Supply System (AWSS) lines running through the brick sewers, which was not expected.

*Contract 1300 (Combination of UMS, CTS, YBM, and STS)*

* Bid opening was April 18, 2013. NTP was issued on June 17, 2013.
* CTS: The contractor has been relocating utilities and preparing guide walls for the slurry wall construction.
* UMS: The contractor has installed decorative pedestrian barriers along Stockton Street. Stockton Street is now closed between Geary and Ellis. Saw-cutting and removal of existing concrete sidewalks and roadway have begun in preparation for the pile guide walls.
* YBM: The contractor has been preparing for two test barrettes and slurry walls. A request for substitution from the contractor to change their slurry wall equipment has delayed the start of the slurry walls.
* STS: Potholing for existing utilities began on January 27, 2014.

**Fire and Life Safety/ Safety and Security Issues**.

* The Construction Specification Conformance Checklists have been completed and approved for all construction packages. In September, the California Public Utilities Commission (CPUC) staff began attending monthly as-built meetings to review the completed items.
* The San Francisco Fire Department (SFFD) regularly attends the now combined Fire and Life Safety Committee (FLSC) and Safety and Security Certification Review Committee (SSCRC) meetings. The SFFD will continue to coordinate with the Tunnel and Stations projects to identify issues of importance during construction.
* An updated Safety and Security Management Plan (SSMP) has been pending completion by the SFMTA since March 2013.

1. **List and status of third-party agreements including utilities, railroads, other agencies, etc.**

**BART.**

All of the Tunnel contract instrumentation and monitoring equipment has been installed. BART requested additional testing and monitoring of existing tunnel lining bolts. This equipment installation is now complete.

The CSP TBM in the southbound tunnel crossed under the BART tunnels on November 28 and 29, 2013. The TBM passed under BART with very minimal movements detected. The TBM in the northbound tunnel crossed under BART on January 29, 2014. The Independent Review Panel (IRP) has had numerous discussions with BART, CSP, and the Contractor staff, regarding the status of tunneling operations and any issues related to the crossings.

The PMOC provided a report to FTA on January 9, 2014, regarding tunnel monitoring equipment and monitoring operations. Monitoring instruments installed inside the BART tunnels showed some movement during the TBM excavation. The PMOC has no concern with the readings recorded by the instruments.

**Caltrans.**

No updates to report.

**CPUC Communications.**

The CPUC was invited to and is participating in the various safety meetings, including the SSCRC and FLSC meetings. Representatives of the CPUC also regularly attend the SFMTA/FTA Quarterly Progress Review Meetings (QPRMs). The last QPRM was held on October 30, 2013.

**San Francisco Public Utilities Commission (SFPUC**).

The CSP has been negotiating with the SFPUC on a Memorandum of Understanding (MOU) regarding additional sewer work to be undertaken south of the 4th Street portal. This additional sewer work will be covered as a Design-Build portion of Contract 1300.

The underground utility contractor for Contract 1252, Synergy, discovered problems with several of the existing sewer lines in North Beach. AWSS lines were found running directly through the existing sewers, which prevented slip lining many of the lines prior to tunneling activities, as was previously planned. As a result, all work was stopped in November 2013. The CSP is in discussions with the SFPUC to determine a solution and should provide direction to the contractor in January 2014.

**San Francisco Parks and Recreation Department.**

The MOU for the Union Square Garage with the Parks and Recreation Department has been completed.

**Private Property Owners.**

The Project has reached agreement with the owner and homeowners association of 950 Stockton (Mandarin Tower) to monitor and install grout pipes to protect the property. The City will now withdraw the condemnation action.

For 19 Stockton, the owner has been unresponsive. Condemnation was filed in February 2013. Pre-judgment possession was granted October 3, 2013, allowing the City access to install monitoring equipment and compensation grout tubes at the property.

Negotiations continue for all other property agreements required for the project. These agreements will allow SFMTA to install settlement monitoring equipment at sensitive buildings adjacent to the project. There are now 370 total licenses (ten were added to address the potential Pagoda retrieval shaft) and property agreements.

1. **Selection of delivery method, description of contract packages, construction sequencing, contract terms and conditions**

The CSP construction is to be contracted by a traditional Design-Bid-Build methodology.

The CSP developed and adopted a construction delivery methodology during the Preliminary Engineering (PE) phase of the project, which recommended seven construction contracts for delivery of the Program.

In mid-September 2012, this strategy was changed to combine the remaining three stations and the systems contracts into one contract (Contract 1300). This contract was awarded in May 2013.

1. **Vehicle status of design, procurement, approvals by state safety board, testing, etc.**

SFMTA issued a Request for Proposals on September 30, 2013, for the procurement of 260 LRVs. The scope includes the design, manufacture, test, and delivery of LRVs together with associated services, parts, special tools, manuals, and training. This follows a Request for Qualifications, which was issued on March 29, 2013. Four car builders (AnsaldoBreda, CAF USA Inc., Kawasaki Rail Car Inc., and Siemens Industry Inc.) were deemed to be in the competitive range and were requested to submit proposals. The due date for bids, originally December 10, 2013, has been extended to February 18, 2014.

1. **Real Estate**

The CSP is in possession of all three subsurface easements required to construct the tunnels and both fee acquisitions required to construct the YBM and CTS stations.

Relocation

All project commercial and residential relocations are complete.

1. **Labor Relations and Policies**

The Small Business Enterprise (SBE) goal for the new Contract 1300 was established at 20 percent. The winning contractor has bid the contract with nearly 25 percent SBE participation.

**C. PROJECT MANAGEMENT PLAN AND SUB-PLANS IMPLEMENTATION**

1. **Project Management Plan (PMP)**

The PMOC received an updated PMP Revision 3 on May 20, 2013, which addressed many of the previous PMP comments. FTA accepted PMP Revision 3, dated May 1, 2013.

1. **Risk and Contingency Management Plan (RCMP)**

An updated RCMP Revision 3 was received by the PMOC on April 30, 2013. The PMOC provided its final Spot Report to FTA on July 19, 2013.

SFMTA submitted a CSP “Contingency Management – Schedule 2012 Update” on May 22, 2013. On October 11, 2013, the CSP provided an updated report with justification in the form of schedule modeling. The PMOC provided a review of this document to FTA on November 21, 2013, and cannot recommend that FTA accept any modification to schedule contingency minimum levels based on the current documentation provided.

1. **SSMP**

The SSMP was projected to be updated by the end of March 2013 but has not yet been completed.

1. **Environmental Assessment / Mitigation Plan/Archaeological Plans**

The PMOC received the Fourth Quarter 2013 Mitigation Monitoring Reporting Program (MMRP) update from SFMTA on January 9, 2014, and provided a Spot Report to FTA on January 22, 2014.

SFMTA has provided evidence of contractor submittals and Inspector Daily Reports to verify that the Mitigation Measures identified in the MMRP are being carried out during construction.

It is the PMOC’s opinion that the grantee is sufficiently managing to ensure that the mitigation measures identified in the MMRP will be carried out during the course of the project.

1. **Real Estate Acquisition Management Plan (RAMP)**

The PMOC received the RAMP, Revision 5, dated September 26, 2013, on November 19, 2013. The PMOC will provide to FTA a review of the Real Estate costs included in the RAMP.

1. **Quality Assurance/Quality Control (QA/QC) Program Plan**

**QA/QC Plan Implementation.**

The following procedures were updated and submitted to FTA and the PMOC on September 16, 2013, and again on September 23, 2013, based on the Project QA recommendations and from the Contract Modification (CMod) Task Force findings:

* CM1101, Change Order Request and Claims Processing, Revision 1
* CM1102, Proposed Contract Change, Revision 2
* CM1103, Change Order and Contract Modification, Revision 1
* CM1105, Differing Site Condition, Revision 1
* CM1107, Force Account Work, Revision 1
* PCP 01, Configuration Management, Revision 2

Since the beginning of this project, Project QA has logged, tracked, addressed, and closed-out each recommendation/finding made by the PMOC, identifying them as a Corrective Action item and then using the overall project Corrective Action Log.

The Quality Manager continues to conduct training for all new members of the project team as they are mobilized.

Contractor QC, as detailed in the *Contract Technical Specification,* is the means by which the Contractor ensures that construction, including that of Subcontractors and Suppliers, complies with the requirements of the Contract. The Contractor, as witnessed by the Project Engineer and/or Quality Manager, for each definable feature of work, shall conduct at least three phases of control (Preparatory Phase, Initial Phase, and Follow-up Phase) to ensure that all work is carried out per the Contract.

1. **Fleet Management Plan and Service Plan**

SFMTA submitted a Rail Systems / Operations Capacity Analysis to test and assess the Phase 1 + Phase 2 CSP Service Integration Plan. The PMOC reviewed the report and provided comments to FTA on June 27, 2013. Additionally, an updated Transit Fleet Management Plan (TFMP) was expected from SFMTA at the end of September**.**

**PMOC Concern: There are several assumptions and simplifications in the model that, if addressed, could potentially change the results of the simulation in a negative way. The magnitude of potential changes cannot be estimated without further analysis, and the PMOC cannot offer a strong opinion on the validity of the simulation results based on the information provided. SFMTA responded to the comments in the PMOC’s report on September 20, 2013. The responses will be reviewed in conjunction with the TFMP, which has not yet been submitted to FTA.**

**D. PROJECT SCHEDULE STATUS**

|  |  |
| --- | --- |
| **Table 2: Schedule Milestones** | |
| PE: | Authorized in July 2002 |
| Record of Decision: | Issued November 26, 2008 |
| Final Design (FD): | Authorized in January 2010 |
| FFGA Request: | Submitted September 2011 |
| FFGA Executed: | October 11, 2012 |
| Ground Breaking:  (Utility Relocation Contract) | February 9, 2010 |
| RSD: | December 26, 2018 |

Minor changes were made to the update as of December 31, 2013. Interface points have been used to link the tunnel contractor’s detailed schedule to the current MPS. In addition, the stations contractor has added activities for the November 1, 2013, to August 1, 2014 period.

The Closeout Complete activity (TUN1190) has not changed from 194 days of float. The Substantial Completion activity (TUN1180) has not changed from a positive 222 days from last month. Previously, these activities were behind schedule. The MPS needs to be kept consistent with the milestones that were developed for tracking purposes.

The current schedule reflects 4.8 months of buffer float, which is unchanged from last month. Overall, the buffer float is still down from 14.8 months, which was reflected in the August 2012 schedule. The minimum contingency required is 8.0 months. The PMOC requests that the CSP prepare a recovery schedule to increase buffer float to the required level.

The southbound TBM was scheduled to launch on July 8, 2013, but was delayed until July 24, 2013. On December 21, 2013, the southbound TBM was stopped at Station 130+27 and did not restart until January 6, 2014. Both delays were the result of mechanical problems. The northbound TBM launched 25 days behind schedule on October 25, 2013, also due to mechanical problems. Currently, the completion of Contract 1252 is projected for June 18, 2015, which is 37 days behind schedule. However, Contract 1252’s delay did not cause a delay to the overall project schedule. The PMOC requests that the stations contractor provide detailed baseline information so that the MPS may be monitored to prevent overall delays.

At this time, the Contract 1300 Baseline Schedule has only been partially submitted by the contractor. The Project recently added a number of activities to the MPS (activities reflected in the Contract 1300 bid documents) to provide the most recent information. The activities that were added start on November 1, 2013, and run through August 1, 2014, and tie to summary activities for the balance of work.

**Major Duration Changes: 11/30 12/31**

CTS 2120 Required Tunnel Interface Complete 167 197

CN 1300 UMS & YBM Required Tunnel Interface Complete 167 197

CTS 1010 CTS Building Demolition 32 52

STS 1010 4th Street Utility Work 74 93

**PMOC Concern: The Contract 1300 Baseline Schedule has only been partially submitted by the contractor, and has not yet been approved by the CSP. The CSP is in an awkward position of not knowing what activities are planned in the coming months, which does not allow the Project to properly plan their resources or inform the community or other interested parties.**

As of December 31, 2013, the RSD for the project is December 26, 2018, which was the date approved in the Baseline Schedule.

**The critical path summary of the project is:**

* CTS Building Demolition
* CTS Install Guide Walls, Slurry Walls and Install Surface Deck
* CTS Excavate Headhouse & Bracing
* CTS SEM & Install Supports
* CTS Headhouse Structural Concrete/Remove Bracing
* CTS Install M/E/P
* CTS Start Up & Testing
* CTS P-1254R Commissioning Complete
* BUF0017 STS Buffer Float
* Safety and Security Certification / Pre-Revenue Activities
* BUF0018 Muni Float
* RSD on December 26, 2018

See Attachment D, which is a three-month look-ahead of all CSP activities.

**E. PROJECT COST STATUS**

The Project Cost Reporting monthly update for January was received by the PMOC on January 24, 2014.

The PMOC and the CSP have had numerous discussions over the past year regarding the cost reporting by the project. It is important that the CSP team highlight and identify changes from the previous month’s report. This maintains a project cost narrative throughout the term of the project. The cost information currently being produced in the CSP monthly report does not include information on potential change orders or an explanation of budget changes as requested by the PMOC.

On January 31, 2014, the CSP provided a narrative and a Supplemental September 2013 Cost Report in an effort to correct and rectify cost reporting issues encountered in the past several months. The PMOC will review these documents and provide comments to the CSP.

**PMOC Concern: The recent monthly cost reports prepared by the CSP were found to have numerous unexplained changes. The CSP has abandoned the reporting coming out of the EcoSys EPC database, which was affecting the cost reporting for the CSP. The PMOC has notified CSP to make corrections and provide details for budget changes. Numerous discussions have taken place and the CSP has determined that they will revise the format of the Cost Reporting Summary sheet to improve overall reporting.**

The Current Cost Estimate for the CSP is $1.5783 billionin Year of Expenditure dollars and is the basis of the total project cost as presented in the 2011 New Starts Report submittal. This capital cost projection incorporates allocated and unallocated contingencies to cover the various risks associated with completion of the project.

Total net incurred costs for the project are $475.2 million. This figure reflects expenditures through SFMTA FAMIS Report ($436.06 million) plus the utilities joint trench Form B reimbursement payment ($12.54 million) and estimates of outstanding pay requests ($16.53 million). This incurred amount equals 30 percent of the total project budget of $1.5783 billion.

The current funding level to date is $795.1 million, which represents 50 percent of the total project budget.

**Change Order Control.**

The Contract 1252 Resident Engineer Trend Log dated January 15, 2014, had the following activities:

* One-hundred-thirty-five (two added since last month): Total identified changes including both contractor and owner-generated changes.
* Three CMods were processed this month: CMods 20, 21, and 22.
* Two-hundred-and-two: The average number of days from COR notification to CMod execution.

**PMOC Concern: Numerous CORs, some dating back to early 2012, have yet to be resolved between the contractor and SFMTA.**

**Funding and Expenditures.**

Federal, state, and local project funding and expenditures are shown in Table 3.

**Table 3: Project Funding (x1000)**

|  | **Committed** | **Awarded** | **Expenditures Billed to date** | **% of Expenditure by Source** |
| --- | --- | --- | --- | --- |
| **Federal** |  |  |  |  |
| New Starts | 942,200 | 319,185 | 176,187 | 18.7% |
| Congestion Mitigation | 41,025 | 41,025 | 41,025 | 100% |
| *Federal Subtotal* | *983,225* | *360,210* | *217,212* | *22.1%* |
| **State** |  |  |  |  |
| Traffic Congestion Relief Program | 14,000 | 14,000 | 14,000 | 100% |
| State Transportation Improvement Program | 88,000 | 0 | 0 | 0.0% |
| Prop. 1B / PTMISEA | 307,792 | 225,912 | 104,458 | 33.9% |
| Prop. 1A / High Speed Rail | 61,308 | 61,308 | 26,782 | 43.7% |
| *State Subtotal* | *471,100* | *301,220* | *145,240* | *30.8%* |
| **Local** |  |  |  |  |
| Prop. K Sales Tax | 123,975 | 123,975 | 103,017 | 83.1% |
| *Local Subtotal* | *123,975* | *123,975* | *103,017* | *83.1%* |
| **Project Total:** | **1,578,300** | **785,405** | **465,469** | **29.5%** |

**Earned Value Analysis.**

May 2013 was the first monthly report in which the CSP has provided Appendix B, Earned Value Analysis. The project baseline for the MPS is set as the current schedule, which computes the planned values based on the budget at completion multiplied by the schedule percentage complete (baseline). Once the baseline is established, following the efforts to detail soft costs and accept the baseline for Contract 1300, the planned values will be reestablished. Contract 1252 is using the original approved Baseline Schedule to calculate Earned Value.

**November Earned Value Analysis:**

* Overall Budgeted Cost: $1,578,300,000
* Planned Value: $503,033,892
* Earned Value: $496,121,868
* Actual Cost: $460,101,697
* Schedule Performance Index (SPI): 0.99
* Cost Performance Index (CPI): 1.08
* Percent Complete: 31.75

**(Note: The Project’s December Earned Value Analysis did not reflect the FTA overall budget of $1,578,300,000 but instead was analyzed with a $9.7 million increase. This increase was due to the added scope for the TBM retrieval shaft, CPT 690.)**

**F. PROJECT RISK, RISK MANAGEMENT AND RISK MITIGATION**

The monthly Risk Mitigation Meeting was held on January 14, 2014. The PMOC attended the meeting.

**Cost Contingency.**

The current Total Project Contingency is $68.75 million, a reduction of $2.9 million from the November reporting period, and is a $68.69 unfavorable balance against the current FTA recommended minimum contingency level of $140 million.

**PMOC Concern: The award of Contract 1300 reduced project cost contingency by approximately $120 million, to a level significantly below the FTA recommendation.**

On April 26, 2011, SFMTA obtained a commitment from the San Francisco County Transportation Authority for $150 million of (State) Regional Improvement Program funds to the project to be accessed in the event project costs increase above $1.5783 billion.

**Schedule Contingency.**

Schedule Contingency Management criteria were developed from the FTA Risk Assessment prior to entry into FD. Minimum schedule contingency levels at various project milestones or “Hold Points” were agreed to with SFMTA at Risk Workshop #4, held on February 24 through 27, 2009.

The September 2012 project schedule reflected 5.2 months of buffer float, which was a significant change from the previous month’s reported float of 14.8 months. Float was reduced due to delays in awarding Contract 1300.

In October 2012, the PMOC requested justification for the reduction in schedule contingency and/or a recovery schedule from the CSP.

On June 17, 2013, Schedule Contingency Hold Point 2, Commence UMS/CTS was obtained with the NTP for Contract 1300. This reduced the FTA recommended schedule contingency from ten to eight months. The current schedule reflects 4.8 months of buffer float.

In October 2013, the CSP submitted the Draft Contingency Management – Schedule Update, which proposed changes to the schedule contingency minimum levels based on a recent risk assessment performed by the Central Subway team. The team used risk-based software, which employs the Monte Carlo method, to perform a probability analysis on the Project’s Summary Schedule.

At this time, the PMOC cannot recommend that FTA accept any modification to schedule contingency minimum levels. The PMOC recommends that the CSP incorporate the Contract 1300 Baseline Schedule as soon as it is approved. At that time, the PMOC recommends that the CSP incorporate the remaining high level schedule risks on the Project Risk Register into a new risk assessment.

**PMOC Concern: In accordance with FTA guidelines, a minimum of eight months of schedule contingency is recommended at this phase of the project.**

See Attachment F for schedule contingency drawdown graph.

**G. ACTION ITEMS AND CONCERNS**

Action Items are included in Attachment E

**APPENDIX A. Three-Month Look-Ahead** (February to April 2014)

SFMTA Management:

* Prepare Monthly Progress Reports.
* Hire Inspectors and Cost/Schedule support staff for Contract 1300 construction.
* Update SSMP.
* Complete approved MPS.

SFMTA Construction Activities:

* 1252 Tunnel. Both TBMs should continue to mine. The construction of the newly located North Beach retrieval shaft and the Green Street continues. Tunnel liner segments will continue to be shipped and production will continue.
* 1300 Stations Trackwork and Systems. Process early submittals and prepare for the beginning stages of construction. Prepare and start station box construction at all three stations. Potholing of existing utilities will continue.

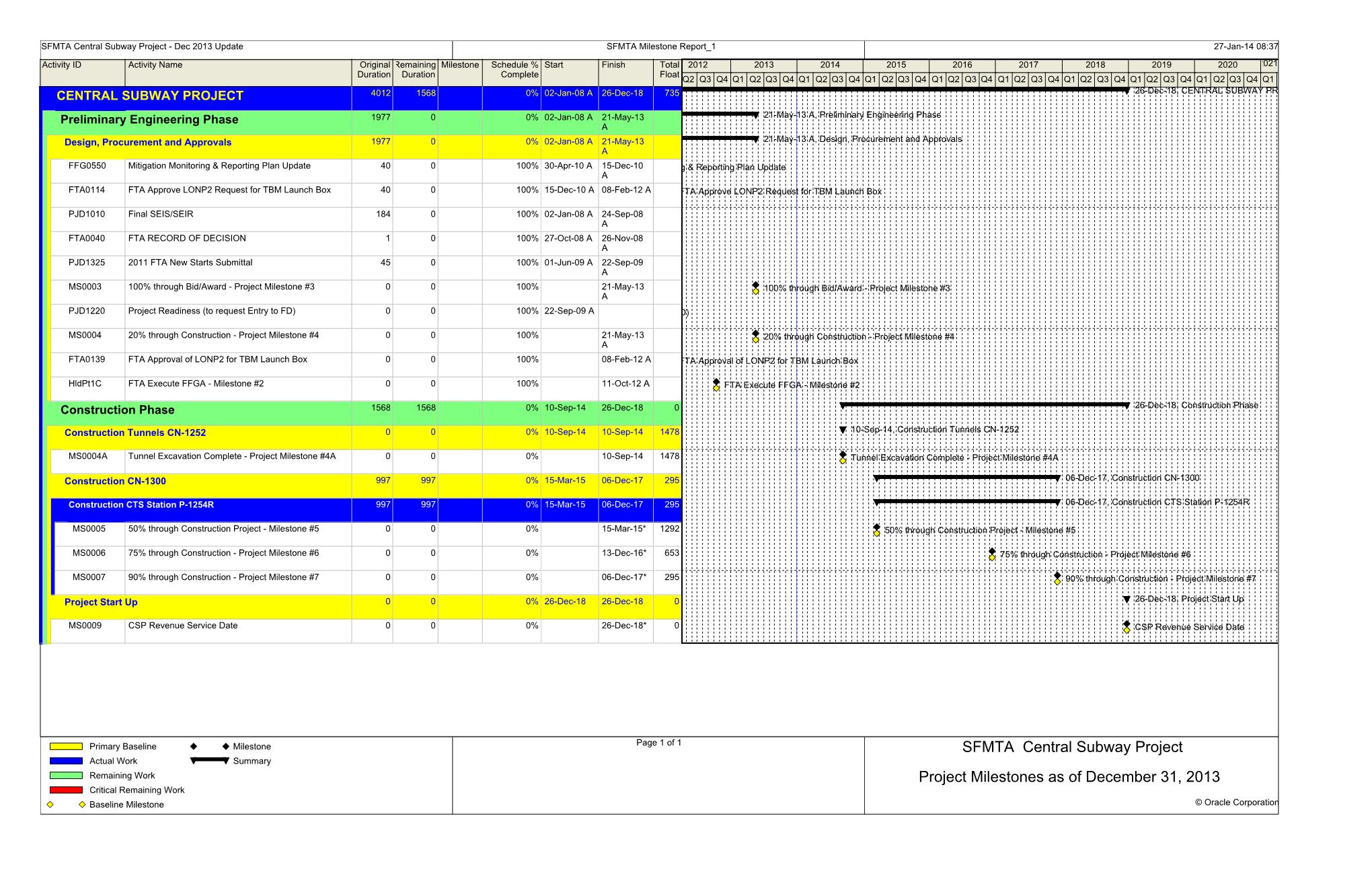
SFMTA Real Estate Activities:

* The Project will continue to work with property managers, owners, and attorneys to acquire all the needed property agreements.

The PMOC expects to attend the following meetings:

* Weekly Management (Monday)
* Weekly Configuration Management Board (CMB) (Wednesday)
* Weekly Tunnel Construction Progress (Thursday)
* Weekly Contract 1300 Construction Progress (Tuesday)
* Real Estate (TBD)
* Monthly Risk (second Tuesday of the month)
* Monthly SSCRC (third Thursday of the month)
* Quarterly FLSC (third Thursday of the month)
* The next PMOC End of the Month Meeting with Grantee is early March 2014.
* FTA/QPRM scheduled for April 23, 2014.

**APPENDIX B. CSP SCHEDULE UPDATE**





**APPENDIX C. LESSONS LEARNED**

| **LL#** | **Date** | **Phase** | **Category** | **Subject** | **Lesson Learned** |
| --- | --- | --- | --- | --- | --- |
| 1 | 09-30-10 | FD | Management | Consultant Contracts | The Project must have a full understanding of the agency and other approving governmental authorities to avoid delay of contract approval and consequential delay of the MPS. |
| 2 | 09-30-10 | FD | Cost | Staffing Plan | The project staffing plan needs to be formatted during PE and updated at least quarterly during FD to manage SCC 80 costs and monitor design production. |
| 3 | 09-30-10 | FD | Scope | Letter of No Prejudice (LONPs) | A defined scope of grantee and PMOC responsibilities needs to be provided for content and acceptability of LONP requests. |
| 4 | 09-30-10 | FD | Management | SSMP | FD consultants should be trained, shortly after mobilization, in the format and their responsibility regarding the System Safety Consultant. |
| 5 | 10-30-10 | FD | Cost | Baseline Cost Estimate (BCE) Update | The BCE should be updated with current costs as soon as they are known by the Project to allow mitigation of cost contingency usage. |
| 6 | 02-21-12 | FD | Management | Program Controls | Program Controls system/software selected for use for the duration of the project should be in place and functional prior to approval to enter FD. Doing so will avoid a transition during FD that could create a lag in timely reporting of cost and schedule status. |
| 7 | 02-21-12 | FD | Management | Risk Mitigation | Oversight Procedure (OP) 40 needs to be revised to establish minimum requirements for secondary mitigation at different phases of the project, similar to those for cost and schedule contingency. The PMOC recommends five percent of project cost at Entry into FD and three percent at execution of an FFGA. |
| 8 | 02-21-12 | FD | Scope | Third Party Agreements | All third party agreements need to be identified as soon as possible, but no later than 65% design completion. This includes leases, both temporary and permanent; MOUs; and licenses, specifically for preconstruction property surveys and settlement monitoring instruments (especially important for underground construction). These third party agreements need to be secured no later than the advertisement date of the construction that they affect. Third party agreements need to be tracked by the project continuously, reported monthly, and updated in a third party agreement matrix submitted quarterly to FTA. |
| 9 | 02-21-12 | FD | Cost | Cost Estimating Procedures | During the preliminary design phase, the Project should establish the cost estimating procedures, format, and software to be used by all estimating entities for the entire duration of the project. |
| 10 | 02-21-12 | FD | Cost | Allocated Cost Contingency | In the BCE submitted to FTA for Entry into FD, the Project should identify percentages of allocated cost contingency contained in the BCE that are apportioned for design risk, market risk, and construction risk. |
| 11 | 02-28-12 | FD | QA | Design Management Action Log | Design Management should develop a matrix as a tracking tool to document, track, and close out known elements that are missing from design submission packages. |
| 12 | 08-15-12 | FD | Environmental Mitigations | MMRP | Numerous mitigations identified in the MMRP are to be handled by incorporating specific design details and/or statements in the contract drawings and technical specifications. The grantee should note on the MMRP the relevant drawings and/or technical specifications. |
| 13 | 08-31-12 | FD | Management | Risk Contingency Levels and Hold Points | It became apparent, during the monitoring of the cost contingency drawdown curve for the project that the contingency levels and hold points no longer represented the current stage of project development and risk reduction/contingency usage related to project development. The project advanced through 100 percent project design; however, the project did not receive credit for the cost contingency usage established by the risk model. The PMOC recognized this deficiency and participated with the grantee in developing a cost contingency drawdown that reflects current project development and reduced risk. |
| 14 | 06-30-13 | Const. | Management | Change Order Process | Perform an audit of the Project’s procedures related to Change Orders and processing. The Project should train staff and inform contractor of their obligations in the process. |
| NEW  15 | 1-30-14 | Const. | Management | IRP Decision-makers | At the request of SFMTA, the American Public Transportation Association (APTA) formed a panel of geotechnical and tunnel experts to perform a peer review of the BART Undercrossing. Prior to crossing under the BART tunnels, the IRP, contractor, SFMTA, and BART representatives convened at predetermined TBM locations to discuss the TBM progress and determine whether the tunneling should proceed. It is critical, that decision makers from each organization attend these meetings. It was noted that BART Senior Management did not attend and instead differed decisions to lower level staff. |

**APPENDIX D. CONTRACT STATUS**

The following sections provide the status of ongoing contracts associated with the CSP.

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **1250** | |
| **Contract Description:** | **UR #1 (YBM)** | |
| **Status:** | Completed June 2011. | |
| **Cost:** | Original Contract Value | $9,273,939 |
|  | Approved Change Orders | $2,694,211 |
|  | Current Contract Value | $11,968,150 |
|  | Expended to Date | $11,968,150 |
|  | % Expended | 100 |
|  | SBE Participation | 92% |
| **Schedule:** | Completed June 2011 | |
| **Issues or Concerns:** | Final claim by contractor for delays caused by archaeological discoveries has not been resolved. | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **1251** | |
| **Contract Description:** | **UR #2 (UMS)** | |
| **Status:** | Work is complete. Project closeout continues | |
| **Cost:** | Original Contract Value | $16,832,550 |
|  | Approved Change Orders | $3,962,031 |
|  | Current Contract Value | $20,794,581 |
|  | Expended to Date | $20,794,581 |
|  | % Expended | 100 |
|  | SBE Participation | 84% |
| **Schedule:** | Substantial completion in August 2012 | |
| **Issues or Concerns:** | Final claim by contractor has not been resolved. | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **1252** | |
| **Contract Description:** | **Tunnels** | |
| **Status:** | NTP 1 was January 2012. TBM #1 and TBM #2 currently tunneling. | |
| **Cost:** | Original Contract Value | $233,584,015 |
|  | Approved Change Orders | $3,687,138 |
|  | Current Contract Value | $237,271,766 |
|  | Expended to Date | $171,103,933 |
|  | % Expended | 72% |
|  | DBE Participation | 6% |
| **Schedule:** | Substantial completion expected April 2015. Total contract days are 1,150. | |
| **Issues or Concerns:** |  | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **1300** | |
| **Contract Description:** | **Three subway stations (YBM, UMS, and CTS) and STS.** | |
| **Status:** | Contract awarded. Four contracts have been combined into one. | |
| **Cost:** | Original Contract Value | $839,676,395 |
|  | Approved Change Orders | $90,000 |
|  | Current Contract Value | $839,766,395 |
|  | Expended to Date | $35,304,319 |
|  | % Expended | 4.2% |
|  | DBE Participation | Contract states 20%. |
| **Schedule:** | NTP issued June 17, 2013. | |
| **Issues or Concerns:** |  | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **CS-155-1** | |
| **Contract Description:** | **Design Package 1 for Contracts 1250, 1251, and 1252. PB/ Telemon** | |
| **Status:** | Design is complete. Construction support is ongoing for Contract 1252. | |
| **Cost:** | Original Contract Value | $5,795,000 (includes exercised options) |
|  | Approved Change Orders | $ 1,697,245 |
|  | Current Contract Value | $7,492,245 |
|  | Expended to Date | $7,167,357 (est.) |
|  | % Expended | 95.7% |
|  | SBE Participation | 31.1% |
| **Schedule:** |  | |
| **Issues or Concerns:** |  | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **CS-155-2** | |
| **Contract Description:** | **Design Package 2 for UMS, CTS, and YBM. CSDG prime** | |
| **Status:** | Designs are complete for all of the station contracts. Construction support of Contract 1300 is underway. | |
| **Cost:** | Original Contract Value | $35,059,252 (includes exercised options) |
|  | Approved Change Orders | $1,460,360 |
|  | Current Contract Value | $36,519,612 |
|  | Expended to Date | $26,545,394 (est.) |
|  | % Expended | 72.6% |
|  | SBE Participation | 43.2% |
| **Schedule:** |  | |
| **Issues or Concerns:** |  | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **CS-155-3** | |
| **Contract Description:** | **Design Package 3 for STS. HNTB-B&C Prime** | |
| **Status:** | Design is complete. Construction support of Contract 1300 is underway. | |
| **Cost:** | Original Contract Value | $16,822,238 |
|  | Approved Change Orders | $312,814 |
|  | Current Contract Value | $17,232,252 |
|  | Expended to Date | $11,605,698 (est.) |
|  | % Expended | 67.4% |
|  | SBE Participation | 30.0% |
| **Schedule:** |  | |
| **Issues or Concerns:** |  | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **CS-149** | |
| **Contract Description:** | **Central Subway Partnership (Project Manager/Construction Manager).** | |
| **Status:** | On-going | |
| **Cost:** | Original Contract Value | $85,139,092 |
|  | Approved Change Orders | 0 |
|  | Current Contract Value | $85,139,092 |
|  | Expended to Date | $38,150,000 |
|  | % Expended | 44.8% |
|  | SBE Participation | 37.2% |
| **Schedule:** |  | |
| **Issues or Concerns:** |  | |

|  |  |  |
| --- | --- | --- |
| **Contract No.** | **CS 156** | |
| **Contract Description:** | **Project Controls Consultant.** | |
| **Status:** | On-going. | |
| **Cost:** | Original Contract Value | $17,112,873 |
|  | Approved Change Orders | 0 |
|  | Current Contract Value | $17,112,873 |
|  | Expended to Date | $6,728,481 |
|  | % Expended | 39.3% |
|  | SBE Participation | 22.15% |
| **Schedule:** |  | |
| **Issues or Concerns:** |  | |

**APPENDIX E. LIST OF ACRONYMS**

AWSS Auxiliary Water Supply System

BART Bay Area Rapid Transit

BCE Baseline Cost Estimate

BIH Barnard Impregilo Healy JV

CMod Contract Modification

COR Change Order Request

CPUC California Public Utilities Commission

CSP Central Subway Project

CTS Chinatown Station

DBE/SBE Disadvantaged/Small Business Enterprise

EPC Enterprise Planning and Controls

FD Final Design

FFGA Full Funding Grant Agreement

FLSC Fire and Life Safety Committee

FTA Federal Transit Administration

IRP Independent Review Panel

LONP Letter of No Prejudice

LRV Light Rail Vehicle

MARAD U.S. Maritime Administration

MMRP Mitigation Monitoring Reporting Program

MOU Memorandum of Understanding

MPS Master Project Schedule

NTP Notice to Proceed

OE Office Engineer

OP Oversight Procedure

PE Preliminary Engineering

PMOC Project Management Oversight Contractor

PMP Project Management Plan

QA/QC Quality Assurance/Quality Control

QPRM Quarterly Progress Review Meeting

RAMP Real Estate Acquisition Management Plan

RCMP Risk and Contingency Management Plan

RSD Revenue Service Date

SCC Standard Cost Category

SFFD San Francisco Fire Department

SFMTA San Francisco Municipal Transportation Agency

SFPUC San Francisco Public Utilities Commission

SSCRC Safety and Security Certification Review Committee

SSMP Safety and Security Management Plan

STS Surface, Track, and Systems

TBM Tunnel Boring Machine

TFMP Transit Fleet Management Plan

UMS Union Square/Market Street Station

UR Utility Relocation

YBM Yerba Buena/Moscone Station