


Memorandum

CS Memorandum No. 1262

To: Distribution

From: Susan MacKenzie, Document Control Manager 

Date: October 24, 2012

Reference: Project No. M544.1, Contract No. CS-149
Task No. 1-8.02, Change Control

Subject: Configuration Management Board Meeting No. 94

Attached please find minutes for Configuration Management Board Meeting No. 94 held on September 12, 2012.

Attachments: CMB Meeting No. 94 Rev. 0 Minutes with attachments

Cc: David Kuehn, STV (w/attachments) david.kuehn@stvinc.com
Shahnam Farhangi, SFMTA (w/attachments)
Roger Nguyen, SFMTA (w/attachments)
Jane Wang, SFMTA (w/attachments)
Carlos Campillo, CSP (w/attachments)
Quon Chin, CSP (w/attachments)
Chuck Morganson, HNTB/B&C (w/attachments)
Aileen Read, CSDG (w/attachments)
CS File No. M544.1.5.0890

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Albert Hoe, SFMTA
Arthur Wong, SFMTA
Ross Edwards, CSP
Mark Latch, CSP
Mark Benson, CSP
Eric Stassevitch, CSP
Beverly Ward, CSP
Charles Dombrowski, CSP
Ken Barnhart, CSP
Michael Acosta, DPW

CMB Meeting Minutes #94

DATE: September 17, 2012

MEETING DATE: **September 12, 2012**

LOCATION: 821 Howard St, Main Conference Room

TIME: 3:00 PM

ATTENDEES: J Funghi (JF), A. Wong (AW), A. Hoe (AH), J. Park (JP), R. Edwards (RE), M. Latch (ML), M. Benson (MB), E. Stassevitch (ES), B. Ward (BW), C. Dombrowski (CD), K. Barnhart (KB), M. Acosta (MA), L. Zurinaga (LZ), M. Lee (ML), B. Lebovitz (BL),

COPIES TO: Attendees: S. Farhangi (SF), R. Nguyen (RN), Q. Chin (QC), J. Wang (JW), C. Campillo (CC), C. Morganson (CM), A. Read (AR), D. Kuehn (DK), File No. M544.1.5.0890

REFERENCE Project No. M544.1, Contract No. 149 Task 1-8.02 Final Design

SUBJECT: Configuration Management Board Meeting # 94 – Rev. No. 0

RECORD OF MEETING *(Italicized text indicates status update of open items)*

ITEM #	DISCUSSION	ACTION BY DUE DATE
1- 06/06/12	The Configuration Manager presented the Programs Configuration Management Procedures, Rev 1 for review to identify the current Configuration Board Members or their designees; as listed in the Procedures and their current standing or relation to the Central Subway Project. A notification letter or email will be sent to SFMTA's Operations, Maintenance, Safety, and Security Managers of their responsibility as a Configuration Management Board Member. In addition the CMB Procedures will be revise to reflect the current SFMTA personnel who holds the position. <i>09/12 Status: Due to time limitations the follow up action item was not discussed but will be addressed at the next CMB meeting.</i>	ES 09/19/12
4- 06/13/12	The CMB requested the PCC team provide an Interface Schedule for Construction Milestones for review. This item will be brought back to the next CMB meeting. <i>06/20:</i> A Milestone Interface Points schedule analysis was shown for information of the Tunnels and STS and their interface with UMS and CTS. MOS is still in review because it isn't working with STS current schedule, it will be put on hold until the STS schedule can be further developed. The CMB recommend the analysis be revised stripping out buffer float and then run analysis. In addition the CMB requested that there be a monthly review update of the milestone interface points. Also the request was made to see the dates of the track schedule even if it doesn't work to see what can be done to resolve it. This item will be brought back to a future CMB meeting. <i>07/11:</i> The PCC team presented for review the Important Interface Points analysis for the contract packages. The analysis showed the drivers in the schedule being the headwall activities, which is an unestablished milestone in the contract but are work activities that has to be completed before follow-on contract work can begin in earnest. Dates shown are valid and are reflecting the new bid schedule (see attached). Actual text still needs to be written in the	ES 09/19/12

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p>Div1 specs for MOS and STS. The PCC will come back to the CMB next week validating the analysis actual construction days from NTP for headwalls to be completed is 219 days. In addition the CMB requested validation from the design lead that the language in the Div 1 specs precludes where the tunnel contractor can work during the 219 days the UMS contractor is performing the headwall work. <i>07/18:</i> Review of the interface analysis between the key points of the UMS, Tunnel, STS contracts was presented. Early completion of UMS headwalls on 6/20/13 is a constraint that needs to be incorporated into the UMS Station contract, this new date would go into the next addendum. Completion of cross passages of 3 & 4 in Tunnel contract allowing break in to the Tunnel by the UMS station contract is another key interface between the Tunnel and UMS contract. Interfaces between UMS and STS contract gaining access through UMS work area to allow STS contractor to start passing through the UMS area, will also be included in the addendum. R. Edwards will confirm UMS new dates are put into the addenda; confirm effects on CTS, i.e. what impact this has on additional float and review early start dates; write STS Division 1 in accord to the analysis currently presented. <i>09/12 Status: Due to time limitations the follow up action item to confirm the 219 days the UMS contractor may perform the headwall work was not discussed but will be addressed at the next CMB meeting</i></p>	
<p>1 – 07/18/12</p>	<p>1252 – The Construction Manager and Resident Engineer presented a proposal from BIH for a no cost change to perform the Grant Avenue Conversion between Post Street and Geary Street from One-way to Two-way Street and modify the traffic signal at Grant Avenue and Geary Street intersection. A cost proposal was also received from Department of Traffic which includes; at their request adding an additional block to the scope of work and making the conversion between Geary and Sutter. Cost proposal received from DPT was relatively close to proposal received from BIH. DPT believes they can have this work done by 7/30, which includes performing pavement marking and redo the signalization. CMB agreed DPT will do the work with a “not to exceed” value of \$39K. In addition the CMB requested a side by side consolidated view of the cost and the recommendation be submitted to the CMB. Also that a scope of work quote be outline to properly implement a detour using Grant St, between Geary and Sutter. The Construction Manager will put together a complete proposal package for CMB approval. <i>09/12 Status: This item was not discussed at this week’s meeting.</i></p>	<p>MB 09/19/12</p>
<p>1- 07/25/12</p>	<p>1250 – M. Benson presented CMod #20 (parts 1, 2 and 3 of 3) Unilateral Change for consideration of additional costs associated with Time for Archeological Discoveries. The first two parts have been presented to the CMB already. Part 3 is a new item for additional Overhead/Indirect Cost during the Archeological Delay. The Contractor concurs with the completion date however; the start date of the delay remains to be in disagreement. The Resident Engineering preformed a schedule analysis. Additionally time related overhead cost compensation to the Contractor for 47 calendar days based on the original contract option baseline and review of all the IDR’s shows what the as built schedule is. The CMB recommend the CMod be revised to add some cost for Equipment Standby which the Contractor is entitled to. Also to write and overview of modification history in the supplemental analysis. The RE will need to do an evaluation of what he believes the equipment cost value is. This item will be brought back to the CMB for review of contents to be presented to the SFMTA Board of Directors for approval. <i>08/08:</i> A revised CMod #20 was presented to include the Contractor’s Mobilization and Equipment Standby Costs (part 3 of 4). The RE presented an equipment standby cost summary analysis demonstrating that during a 3 month period the Contractor had two pieces of equipment on standby indicating an equipment usage slowdown of 65 work days due to the Archeological discovery. The CMB took exception to two line items in the summary requesting that the cost for the standby time for the “Foreman and Service Truck” equipment be eliminated from the cost summary. In addition the cost for the Additional Extended Overhead Costs (part 4 of 4) will be finalized after the RE meets with</p>	

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p>the Contractor next week. This item will be brought back to the next CMB for approval. 08/29: This item was included on this week's agenda; however was not reviewed due to backup documentation for the final extended overhead cost not being received. This item will be brought back to next week's meeting. 09/12 Status: <i>The revised CMod for (Parts 1, 2, 3 and 4) Unilateral Change was presented to the CMB showing removal of the "service truck" from the equipment standby cost. In addition the RE presented the Contractor's agreed overhead costs during the archaeological delay period. AGREE – CMB 0041</i></p>	
<p>3- 07/25/12</p>	<p>1252 – M. Benson and Sarah Wilson presented MOS Traffic Signal re-route cost proposal for re-routing the traffic signal cable for review (Trend #15). This work will require a new trench to be excavated south of the south headwall limits and new conduits and traffic cables will be installed in the new trench. This cost change will give authorization to the Contractor as a "Do Not Exceed Value" of \$40K. The CMB requested the PCC look into the hourly rate/daily rate for the triton barrier also to find out what the 1.5% payroll tax item is (what are we paying for)? This COR will be brought back to the next CMB meeting as a contract modification for approval. 08/01: The RE gave a status update to Trend #15; reporting the potential change order now may include standby time associated with this change. A revised CMod will be develop to include cost for potential standby time and brought back to the CMB for review. 09/12 Status: <i>This item was not discussed at this week's meeting.</i></p>	<p>MB 09/12/12</p>
<p>1- 08/08/12</p>	<p>1253 – R. Edwards and A. Ayres presented CCOP X53-004 - UMS Procurement Duration Change. This revision shortens the duration from Award to NTP from 40 days to 24 days. Activities requiring procurement are approve/execute/certify the UMS Contract. A revised CCOP will be brought back to the CMB for approval which further changes the schedule durations in addendum number six - 1) Changing the bid opening date to August 23rd, 2) shortening the restriction of when the Contractor can start interface on Stockton St. from 820 to 806 days; 3) increasing the quantity of when the Contractor can have access through tunnels interface from 1123 to 1167 days; and 4) duration of when the Contractor must provide the invert to the STS Contractor from 1199 to 1248 days. The CMB requested the Advertise Date Study be updated to reflect the changes made to the UMS Procurement Duration. 09/12 Status: <i>Due to time limitations the follow up action item to was not discussed at this week's meeting.</i></p>	<p>RE 09/19/12</p>
<p>2- 08/08/12</p>	<p>1255 – R. Edwards and Alexis Ayres presented CCOP X55-004 – MOS Advertise Date to August 20, 2012 which changes the bid review time from 20 to 30 days to account for the holiday, and to avoid administration conflicts with issuing two stations (CTS and MOS) close to the same dates. The Advertise Date Study will be update to reflect the changes made to the MOS Advertise Date. 09/12 Status: <i>This item was not discussed at this week's meeting.</i></p>	<p>RE 09/19/12</p>
<p>3- 08/08/12</p>	<p>1256 – R. Edwards and Alexis Ayres presented CCOP X56-003 – STS Advertise Date to October 1, 2012, allowing more time to complete design changes to the sewer work and to received more feedback on the Advanced Train Control System (ATCS) scope. The Advertise Date Study will be update to reflect the changes made to the STS Advertise Date. 09/12 Status: <i>This item was not discussed at this week's meeting.</i></p>	<p>RE 09/19/12</p>
<p>4- 08/08/12</p>	<p>1252 – R. Edwards presented a PCC for Tunnels Revisions to North Headwall Elevation (Top) raising the North headwall elevation at MOS approximately 3'- 6". (See attached PCC - 01). The discussion focused on the reason for the change and the estimated cost. This item will be brought to the CMB for signature approval next week. 08/15: Agenda item was viewed however; cost estimate was not available to review. The CMB requested a complete package be brought back to next week's meeting for review and signature approval. 08/22: A complete PCC package which included the cost estimate was reviewed, however Proposed Contract Change concurrence was not given by the Contract Administrator's representative due to lack of authority to sign contract changes.</p>	<p>ES 09/19/12</p>

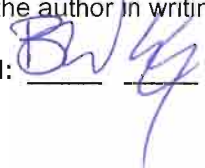
ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p>The Construction Manager will forward the complete package to Joon Park for a more thorough review followed by a recommendation to Shahnam Farhangi, SFMTA Contractor Administrator. This item will be brought to the next CMB meeting. In addition a recommendation by the Board was given to update the Proposed Contract Change (PCC) Issuance and Processing procedures “Concur In Principle” section (Form 1102-1) delegating signature approval to a voting member of the Configuration Management Board. <i>08/29 Status: The PCC approval concurrence was giving by the SFMTA Contractor Administrator on 08/23. A copy of the signed documentation needs to be presented to the CMB for final board approval. 09/12 Status: This item was not discussed at this week’s meeting.</i></p>	
<p>5-08/08/12</p>	<p>1252 – R. Edwards presented a PCC for Tunnels - Reduction of UMS Headwall Concrete and Reinforcement Limits for approval of change. (See attached PCC-02). This change would reduce the cost of the headwall construction as well as facilitate the future station demolition of the headwalls. The CMB was in agreement this change needs to be done but wanted to review detailed estimate. This item will be brought to the CMB for signature approval next week. <i>08/15: Agenda item was viewed however; cost estimate was not available to review. The CMB requested a complete package be brought back to next week’s meeting for review and signature approval. 08/22: A complete PCC package which included the cost estimate was reviewed, however Proposed Contract Change concurrence was not given by the Contract Administrator’s representative due to lack of authority to sign contract changes. The Construction Manager will forward the complete package to Joon Park for a more thorough review followed by a recommendation to Shahnam Farhangi, SFMTA Contractor Administrator. This item will be brought to the next CMB meeting. In addition a recommendation by the Board was given to update the Proposed Contract Change (PCC) Issuance and Processing procedures “Concur In Principle” section (Form 1102-1) delegating signature approval to a voting member of the Configuration Management Board. 08/29: <i>The PCC approval concurrence was giving by the SFMTA Contractor Administrator on 08/23. A copy of the signed documentation needs to be presented to the CMB for final board approval. 09/12 Status: This item was not discussed at the meeting and is on hold pending the outcome of the meeting with the contractor regarding their response to PCC 1252-002 UMS Headwalls.</i></i></p>	<p>ES 09/19/12</p>
<p>1-</p>	<p>1251 - M. Benson presented for consideration Trend #37, 44 and 45 - Sewer Installation change for the Gucci Store, Macy’s West and Union Square Garage. Existing sewer laterals depicted on the contract drawings for the Gucci store and Union Square Garage were found to be connected to a downstream end of the existing main which required installation of new laterals. In additional the 8” sewer lateral for Macy’s West is too big to be connected directly to the 14” main requiring a new lateral be installed at a higher elevation (see photos attached). AGREE – CMB 0077. The CMB recommended that this issue be pursued as a potential E&O from the designer.</p>	
<p>2-</p>	<p>R. Edwards presented for discussion a review of the draft matrix proposal for the potential bid depicting an A+B+C+ D and/or Combined Bid Contract Strategy for discussion. A meeting will be set up next week to present a draft mock-up the proposal CSP/SFMTA Program Management.</p>	
<p>3-</p>	<p>Due to time limitations the 100% Estimates - Escalation for contracts 1255 (MOS) and 1256 (STS) was not discussed but will included on next week’s agenda for review.</p>	

ACTION ITEMS

ITEM #	MTG DATE	MTG ACTION DATE	DESCRIPTION	BIC	DUE DATE	STATUS
1	06/06/12	06/06/12	Configuration Management Procedures – update CMB voting members	E. Stassevitch	09/19/12	Open
4	06/13/12	07/11/12	1253 – Verification Interface Schedule Headwall Completed (219 CD from NTP)	E. Stassevitch	09/9/12	Open
3	07/25/12	07/25/12	1252 – MOS Traffic Signal – 1.5% Payroll tax	K. Barnhart	09/19/12	Open
1	07/25/12	08/08/12	1250 – Revised CMod #20 – Standby Time – Overhead Costs	M. Benson	09/12/12	Closed
1	08/08/12	08/08/12	Advertise Date Study - Revisions	A Ayres	09/19/12	Open

Meeting adjourned at 5:10pm

These meeting minutes have been prepared by B. Ward and reviewed by E. Stassevitch, and are the preparer's interpretation of discussions that took place. If the reader's interpretation differs, please contact the author in writing within four (4) days of receipt of these minutes.

Signed:  [initials of preparer & reviewer] Date: 080812 [Date review completed]

Meeting Agenda

Project No. M544.1, Contract No. CS-149
Program/Construction Management
Configuration Management Board (CMB) Meeting No. 94
September 12, 2012
3:00pm – 5:00pm
 Central Subway Project Office
 821 Howard St. 2nd Floor
 Main Conference Room

Attendees:

Mark Benson	Albert Hoe	Matt Lee	Art Wong
Ross Edwards	Jim Kelly	Roger Nguyen	Luis Zurinaga
Shahnam Farhangi	David Kuehn	Joon Park	
John Funghi	Mark Latch	Eric Stassevitch	
John Haley	Brad Lebovitz	Beverly Ward	

1. **1250** – CMB-0041 CMod #20 Unilateral CMod for Archeological Delays – *Revised for approval*
2. **1251** – Macys, Gucci, and Union Square Garage Sewer Lateral (Trend No. 37, 44 and 45) - *For approval*
3. **1252** – Nothing to Report
4. **1253 (UMS)** – Nothing to Report
5. **1254 (CTS)** – Nothing to Report
6. **1255 (MOS)** – Estimate Review 100% - Escalation
7. **1256 (STS)** – Estimate Review 100% - Escalation
8. **Trend/Change Log** –
9. **Other Business** – Action Items Follow up:

<u>MTG ACTION DATE</u>	<u>DESCRIPTION</u>	<u>BIC</u>
06/06/12	Configuration Management Procedures – Notification SFMTA voting members	E. Stassevitch
07/11/12	1253 – Verification Interface Schedule Headwall Completed (219 CD from NTP)	E. Stassevitch
07/25/12	1252 – MOS Traffic Signal – 1.5% Payroll tax	K. Barnhart
08/08/12	1250 – Revised CMod #20 – Standby Time – Overhead Costs	M. Benson
08/08/12	Advertise Date Study - Revisions	A Ayres




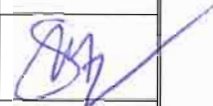
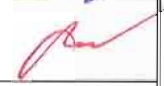
Meeting Attendance Sheet

Project No. M544.1, Contract No. 149
Program/Construction Management
Configuration Management Board Meeting No. 94
September 12, 2012
3:00 p.m. – 5:00 p.m.
 Central Subway Project Office
 821 Howard, 2nd Floor
 Main Conference Room

Deliver Meeting Attendance Sheet with original signatures/initials to Document Control.

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Please enter initials if your name is listed below. Please enter name, affiliation, phone number and email address if your name is not listed below.				
Benson, Mark	CSP	(415) 701-4295	Mark.Benson@sfmta.com	MCB
Dombrowski, Charles	Hill/PCC	(415) 701-5272	Charles.Dombrowski@sfmta.com	CFD
Edwards, Ross	CSP	(415) 581-5165	Ross.Edwards@sfmta.com	RE
Farhangi, Shahnam	SFMTA	(415) 554-0721	Shahnam.Farhangi@sfmta.com	
Funghi, John	SFMTA	(415) 701-4299	John.Funghi@sfmta.com	FF
Haley, John	SFMTA		John.Haley@sfmta.com	
Hoe, Albert	SFMTA	(415) 581-5164	Albert.Hoe@sfmta.com	AA
Kelly, Jim	SFMTA		Jim.Kelly@sfmta.com	
Kuehn, David	STV/PMOC	(510) 464-8053	David.kuehn@stvinc.com	
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Lebovitz, Brad	STV/PMOC	(510) 464-8052	Bradley.lebovitz@stvinc.com	BL
Lee, Matt	SFCTA	(415) 522-4813	matt@sfcta.org	ML

central subway

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
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Ward, Beverly	CSP	(415) 701-5291	Beverly.Ward@sfmta.com	
Wong, Arthur	SFMTA	(415) 701-4305	Arthur.Wong@sfmta.com	
Zurinaga, Luis	SFCTA	(415) 716-6956	Luis.zurinaga@sfcta.org	
Mike Azostz	CSP	701-5282		
Ken Barnhart	CSP	(415) 701-5274	Keneth.Barnhart@sfmta	

CMB Change No.: CMB - 0041

Initial Implementing Change Control Procedure No.: 1250 – CMod #20

Part 1 of 4, Part 2 of 4, Part 3 of 4, Part 4 of 4

GENERAL

Proposed Change Sponsor: M. Acosta Received by CMB: 09/12/2012
(Date)

Affected Disciplines: Traffic Specifications
Civil, Utility


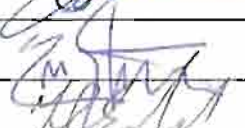


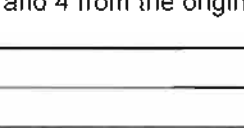
Impacts of Change
 (Part 1) Rental/Maintenance Costs For Support of Archaeological Trenches
 (Part 2) Additional Work as a Result of Archaeological Shutdown Including Support Work
 (Part 3) Mobilization and Equipment Standby Costs
 (Part 4) Additional Overhead/Indirect Costs During Archaeological Delay Period

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

Signatures

	Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			9-12-12
Deputy Program Manager:			9/12/12
PM Project Services:			12 Sep 12
PM Project Development/Delivery:			9/12/2012
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			12 Sept 2012

Comments

This revised CMod#20 addresses Parts 1, 2, 3 and 4 from the original modification presented at CMB mtg. #81 – 05/30/12. (See attached copy of CMod#20).

CONTRACT MODIFICATION NO. 20 (UNILATERAL)

Costs Associated with Archeological Discoveries and Contract Time Extension

SFMTA Contract No. 1250
MOSCONE STATION AND PORTAL
UTILITIES RELOCATION

Contractor: Synergy Project Management Inc.
150 Executive Park Blvd., Suite 4750
San Francisco, Ca 94134

SUPPLEMENTAL ANALYSIS (FOR CMB PRESENTATION)

BACKGROUND INFORMATION:

This Unilateral Contract Modification is being executed in order to compensate the Contractor for all additional costs resulting from the discovery of archeological findings at multiple sites within the project limits. The compensation costs contained herein are comprised of both direct costs and additional indirect costs as shown below:

- | | |
|--------------|--|
| PART 1 of 4: | Rental/Maintenance Costs for Support of Archeological Trenches
<u>(as previously presented to CMB on February 29, 2012)</u> |
| PART 2 of 4: | Additional Work as a Result of Archeological Shutdown Including Support Work
<u>(as previously presented to CMB on February 29, 2012)</u> |
| PART 3 of 4: | Mobilization and Equipment Standby Costs |
| PART 4 of 4: | Additional Overhead/Indirect Costs During Archeological Delay Period |

The following subsections analyze each of these four components with an initial narrative of the scope of the work required, followed by a justification of why such work was required and a concluding breakdown of the resulting additional costs.

SCOPE OF WORK:

RENTAL/MAINTENANCE COSTS FOR PROTECTION OF ARCHEOLOGICAL TRENCHES (PART 1)

Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period. In addition to rental costs, compensation also includes trench protection maintenance costs including, but not limited to, re-shoring and re-welding of plates as required to ensure continued trench protection.

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS (PART 2)

Compensate Contractor for directly supporting archeologists' mitigation activities. Support work includes, but is not limited to the following activities:

- Training crew how to recognize and properly respond to discovery of archeological findings
- Shutting down of work areas upon discoveries
- Hand removal of excavated soils and transportation to yard for intermediate processing
- Transportation of soils and equipment to and from Sonoma State University for final processing

Refer to the attached Force Account Report (FAR) table for a complete list of support work activities included as part of this Contract Modification.

MOBILIZATION AND EQUIPMENT STANDBY COSTS (PART 3)

Compensate Contractor for equipment standby costs for two crews at 65 working days each (from 8/16/2010 to 11/15/2010). Types of equipment included are as follows:

- Backhoes with pavement breakers
- Compact Hydraulic Excavators
- Hydraulic Excavators
- Vibratory Pile Driving Equipment

This Contract Modification also compensates the Contractor for costs relating to additional demobilization/remobilization operations. Scope of work for these mobilization operations includes the installation/removal of steel plates, Triton barriers, and other traffic/pedestrian control devices, as well as the moving of equipment to and from the Contractor's yard.

ADDITIONAL OVERHEAD/INDIRECT COSTS DURING ARCHEOLOGICAL DELAY PERIOD (PART 4)

This Contract Modification unilaterally extends the Contract substantial completion date from April 6, 2011 to May 23, 2011. This extended duration, as determined by the SFMTA Resident Engineer, encompasses all delays related to the subject archeological findings and additional delays related to unforeseen additional work on PG&E facilities. In addition to extending the Contract duration, this Contract Modification also compensates the Contractor for additional time related overhead (TRO) costs resulting from the 47EA calendar day extension contained herein.

REASON FOR CHANGE:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES (PART 1)

During the mitigation process approval period and subsequent mitigation work, the Contractor was required to protect the trenches and excavated areas containing archeological findings. This trench protection necessitated the use of the additional steel plates, hydraulic shoring, and triton barriers compensated under this Contract Modification.

In addition to direct trench protection equipment rental costs, there are additional cost related to the maintenance of the Contractor's trench protection infrastructure. This maintenance work was required to ensure continued safe hydraulic jacking pressure and sufficient welding of steel plates on the road surface.

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS (PART 2)

Upon initial discovery of archeological findings, the Contractor's entire crew was required to complete an archeological indoctrination program. In these meetings the Contractor's crew was taught how to properly identify and respond to archeological findings. Completion of these training programs ensured that the execution of CN 1250 work did not cause irreversible damage to or loss of historic archeological materials.

During mitigation efforts, the SFMTA requested that the Contractor's crew assist in the removal of archeological findings soils from the Project limits as required to conduct analysis. This support work, as directed and supervised by the Sonoma State University archeologists, ensured archeological findings were promptly moved offsite as required to complete mitigation as needed to resume Contract work in the affected areas.

MOBILIZATION AND EQUIPMENT STANDBY COSTS (PART 3)

Due to the archeological discoveries within the project limits on 4th Street between Howard and Folsom Streets, the Contractor was forced to put two crews' worth of equipment on standby while a mitigation plan was established. The inability to proceed with work in a timely manner was due to the lack of a previously established archeological discovery mitigation plan. Upon initial discovery, the SFMTA consulted with the Federal Transit Administration to develop a mitigation plan. Once developed, this plan was then forwarded to the State Historic Preservation Office (SHPO) and local Native American tribal representatives for approval. Once the plan was approved, a local Native American monitor was hired to oversee the mitigation activities. A significant delay resulted due to the amount of agencies and reviews required prior to implementation of the mitigation program. The complexity of the mitigation plan approval process made it difficult for the SFMTA to provide an accurate start date estimate for mitigation activities. This

uncertainty resulted in dissuading the Resident Engineer from requesting that the Contractor to demobilize his equipment. As a result, the Contractor kept the subject equipment on site during the mitigation plan approval process in order to allow for a quick return to Contract work after mitigation work was complete.

The demobilization/remobilization scope of work is included in this Contract Modification because of the combined effect of the equipment standby period (discussed above) and the holiday moratorium shutdown period. Had it not been for the discovery of the archeological findings, the Contractor would have been able to complete work prior to the moratorium thereby not requiring a post-moratorium remobilization back to the area where the findings occurred.

ADDITIONAL OVERHEAD/INDIRECT COSTS DURING ARCHEOLOGICAL DELAY PERIOD (PART 4)

The aforementioned archeological discoveries and subsequent mitigation efforts necessitated an extension of the Contract substantial completion date.

In addition to time extension due to the archeological findings, the following issues related to PG&E facilities necessitated additional time extensions:

- An electrical transformer malfunction prevented PG&E from completing cutover of electrical service to Olivet University (4th Street at Clementina).
- A vault which was to be demolished under CN 1250 was found to contain a live PG&E primary cable. It was not possible to push the vault demolition work to a future contract as it was in the alignment of a Joint Trench.

TOTAL MODIFICATION VALUE:

	\$255,840.49	Plates and Barriers (Rental/Maintenance) (Part 1 of 4)
+	\$199,741.54	Archeologist Support Work (Part 2 of 4)
	<u>\$455,582.03</u>	Force Account Total
-	\$50,000.00	Existing GE-5 Allowance for Arch. Discoveries
	<u>\$405,582.03</u>	Total Direct Costs Included in Contract Modification
	\$67,728.37	Mobilization and Equipment Standby Costs (Part 3 of 4)
+	<u>\$124,186.65</u>	Additional Overhead/Indirect Costs (Part 4 of 4)
	<u>\$597,497.05</u>	TOTAL MODIFICATION VALUE

COST ANALYSIS:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES (PART 1)

All rental/maintenance costs contained herein are based on 24EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeological related trench protection equipment and maintenance costs as incurred during the completion of CN 1250 Contract work. (note that the lowest of three submitted monthly rental rates was used in order to determine steel plate compensation amount contained herein.)

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS (PART 2)

All support work costs contained herein are based on 58EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeologist support work as performed during the completion of CN 1250 (May 2010 to January 2011).

MOBILIZATION AND EQUIPMENT STANDBY COSTS (PART 3)

The SFMTA Resident Engineer reviewed field inspector's notes to determine durations during which the Contractor's equipment was prevented from being in active operation due to the subject archeological discoveries. It was determined that two crews' worth of equipment were each impacted for 3 months each (8/16/2010 to 11/15/2010). All archeological discoveries were fully moved offsite November 17, 2010, at which point all delayed equipment was able to return to work.

Once the durations were determined, the appropriate compensation value was determined using Caltrans rates with specified standby modifier factors. Pursuant to Caltrans Right of Way guidelines, as referenced to in CN 1250 General Provisions, standby compensation is "limited to eight hours per day or forty per week maximum" (Caltrans Labor Surcharge and Equipment Rental Rates Part D "Right of Way Delay"). Following the Caltrans guidelines, it was determined that the Contractor was entitled to \$47,696.80 in equipment standby costs (before contractual markups). Refer to the attached table provides a breakdown of this total equipment cost.

In addition to above equipment delay costs, the Contractor is also compensated in this Contract Modification for additional costs related to the mobilization operations discussed on the previous page. It was agreed that demobilizing and remobilizing operations took approximately 8 hours and 4 hours, respectively. The total cost for the additional mobilizations was determined to be \$9,960.12, consisting of \$5,004.00 in labor and \$4,956.12 in equipment costs (before contractual markups). For detailed breakdown of crew and equipment costs associated with mobilization operations, refer to attached table.

Based on the above analysis, the total cost associated with COR No. 52 is \$67,728.37. This total consists of \$5,754.60 in labor, \$60,550.85 in equipment costs, and \$1,422.92 of bonds/insurance markups. It should be noted that this compensation value was not reviewed and/or approved by the Contractor. Instead, this value represents the SFMTA Resident Engineer's estimate of a fair and reasonable compensation amount.

ADDITIONAL OVERHEAD/INDIRECT COSTS DURING ARCHEOLOGICAL DELAY PERIOD (PART 4)

In order to determine a fair and reasonable compensation value for the additional overhead contained herein the SFMTA Resident Engineer used the previously agreed costs as contained in CN 1251 Contract Modification Number 13. In order to unilaterally determine a compensation value, the SFMTA Resident Engineer analyzed each of the previously approved overhead costs contained in the aforementioned CN 1251 Modification and modified the "percentage involvement factors" to account for CN 1250 involvement during the extended period. After applying these factors, the Resident Engineer's estimated overhead daily cost for the extended period was determined to be \$2,586.76. This daily overhead, when extended over the 47EA calendar day Contract extension contained herein, equates to \$124,186.65 in total extended overhead (with 2.146% Bonds and Insurance markup).

It should be noted that the rates used to determine this compensation value were reviewed and approved by the Contractor. However, the 47EA calendar extension was determined by the SFMTA Resident Engineer (see Schedule Analysis below) and has not been accepted by the Contractor.

SCHEDULE ANALYSIS:

After a review of the Contract baseline schedule, schedule updates and inspection of SFMTA Construction Inspectors' Daily Reports of actual work completed, the SFMTA Resident Engineer concluded that the additional work contained herein resulted in a 47EA calendar day Contract extension. The previous substantial completion date of 04/06/2011 will be extended to 05/23/2011 after execution of this Contract Modification (see attached as-built schedule as prepared by SFMTA Resident Engineer).

**FORCE ACCOUNT REPORT
COST SUMMARY TABLES
(PARTS 1 AND 2)**

(MTA Central Subway On 1250
 Moscone Station and Portal Utilities Relocation
 Approved Archeological Fence Account Work
PART 1: PLATES AND BARRIERS (RENTAL AND MAINTENANCE)

Item #	Item Account #	Date Performed	Description of Work	Unit	Price
			TOTAL OF ALL FARS:	0	202,940.89
1	1020	06/15/10	At AT&T Vault, additional work re-shoring, re-plating and demolition	0	1,400.00
2	1023	06/17/10	Additional work to secure shoring and plates at the Main Vault	0	1,192.00
3	10120	01/31/10	Rental and maintenance of archeological site @ F&B work from 1/17/10-1/31/10 (14 days). Rental and maintenance of archeological site @ MRF from 1/10/10-1/31/10 (22 days)	0	21,204.74
4	1008	07/23/10	Additional work to re-weld plates on 4th/Howard	0	403.92
5	1008	June	Rental of plates, jacks, shores, barriers 6/1/10 - 6/30/10 for all archeological excavations between 4th Street/Howard to 4th Street/Folsom (except in front of Moscone/Hwyway)	0	21,761.76
6	1007	July	Rental of plates, jacks, shores, barriers 7/1/10 - 7/31/10 for all archeological excavations between 4th Street/Howard to 4th Street/Folsom (except in front of Moscone/Hwyway)	0	21,761.76
7	1125	08/01/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of August from northeast of Moscone driveway to NE corner of 4th/Folsom	0	61,326.64
8	1126	08/01/10	Rental of plates, shores and barriers 8/1/10 - 8/31/10 for all archeological excavations for F&B, MRF, MRF work between 4th/Howard to Folsom except in front of Moscone driveway and Water Dept	0	21,761.76
9	1127	08/01/10	Rental of plates at the Water Dept, hole on 4th between Howard and Folsom for the month of August	0	1,333.08
10	1128	08/30/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of September, 2010	0	61,326.64
11	1123	09/10/10	Rental of plates for the Water Dept, hole on 4th between Howard and Folsom	0	1,333.08
12	1128	09/10/10	Rental of plates, shores and barriers 9/1/10 - 9/30/10 for all archeological excavations for F&B, MRF, MRF work between 4th/Howard to Folsom except in front of Moscone driveway and Water Dept	0	21,761.76
13	1008	07/07/10	Additional work to re-weld cutback for AT&T MTA and MRF 1044	0	704.00
14	1100	10/1/10 - 10/31/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of October, 2010	0	61,326.64
15	1201	10/1/10 - 10/31/10	Rental of plates for the Water Department hole on 4th between Folsom and Howard for the month of October, 2010	0	1,333.08
16	1001	10/1/10 - 10/31/10	Rental of plates, jacks, shores and barriers 10/1/10 to 10/31/10 for all archeological excavations between 4th/Howard to 4th/Folsom (except in front of Moscone/Hwyway and Water Department)	0	21,761.76
17	1001	10/1/10 - 10/31/10	Additional 11thm barriers for Archeological Excavation for AT&T, F&B and MRF for the month of October	0	2,642.67
18	1000	11/15/2010	Rental of plates, shoring and barriers at the Moscone Driveway 7/23/10 - 7/31/10	0	1,986.40
19	1141	9/9/2010	AT&T mainhole and LPH A3: Maximum height and re-weld steel plates over archeological holes on 4th Street between Howard and Folsom	0	330.31
20	1100	8/9/2010	4th/Folsom/Howard: additional work to re-shore, jacks and re-weld archeological holes	0	4,527.40
21	1108	8/10/2010	4th/Folsom/Howard: Additional work to continue to re-shore and re-weld archeological holes	0	607.41
22	1138	8/16/2010	4th/Folsom/Howard: Additional work to re-weld plates on archeological holes	0	780.22
23	1137	8/16/2010	4th/Folsom/Howard: Additional work to re-weld plates on AT&T MTA	0	1,282.73
24	1139	8/11/2010	17th Street/Folsom/Howard East: work to station 210 and re-weld plates	0	1,281.00

SFMTA Central Subway CN 1250
 Moscone Station and Portal Utilities Relocation
 Approved Archeological Force Account Work

PART 2: ADDITIONAL WORK AS A RESULT OF ARCHEOLOGICAL SHUTDOWN INCLUDING SUPPORT WORK

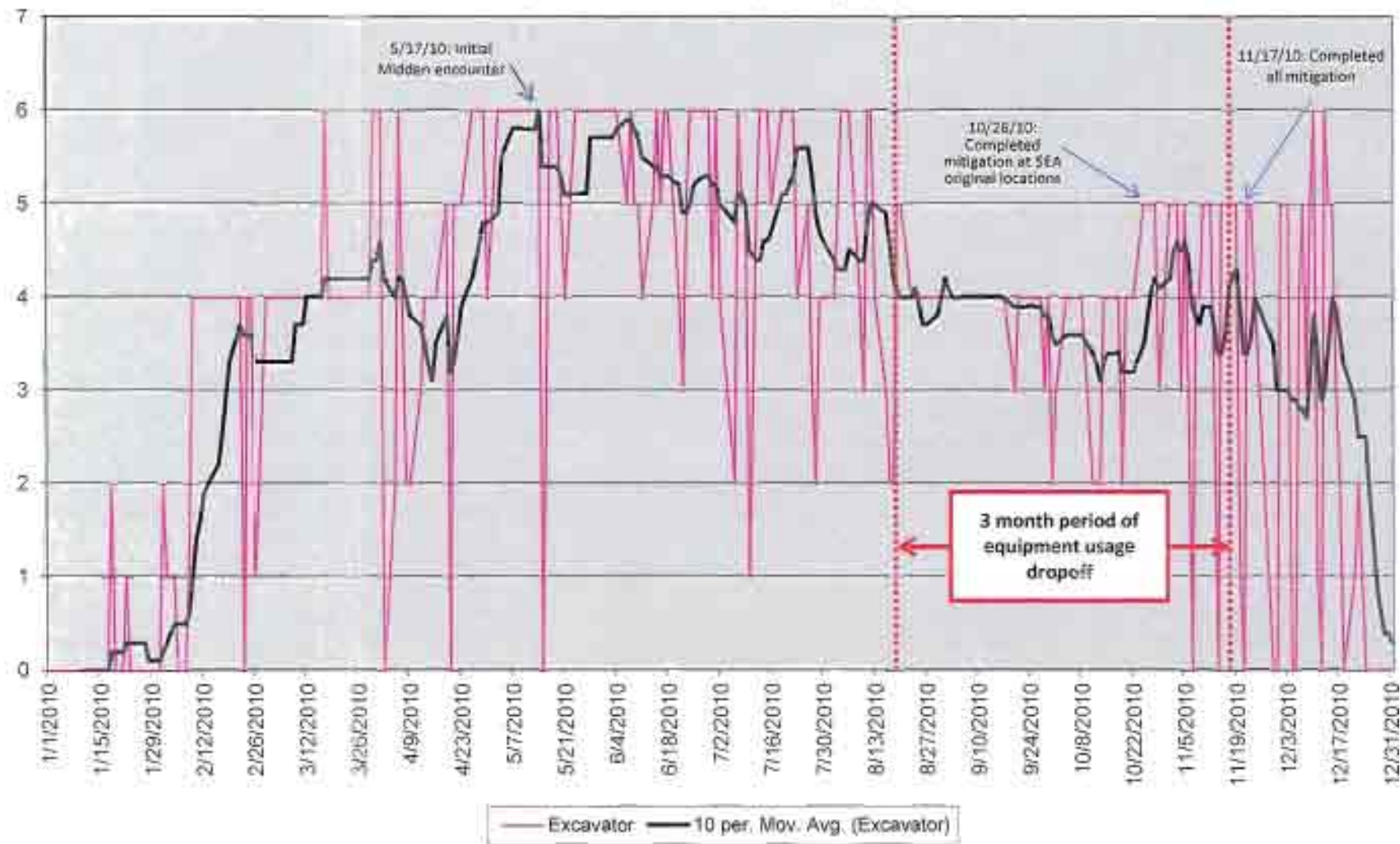
Item #	Force Account #	Date (format)	Description of Work	Time
TOTAL OF ALL FARs				\$ 359,342.54
1	105	06/02/10	Build pedestrian bridge over PG&E vault 1493 hole located in the sidewalk area	\$ 1,113.09
2	33910	06/17/10	Shutdown of PG&E vault installation at 4th and Howard as a result of archaeological finding. Work involves shoring and plating hole and demobilization for the day.	\$ 3,792.24
3	51910.8	05/19/10	Shutdown of MRY vault installation at 4th and Howard as a result of archaeological find. Work involves shoring, plating and demobilization for the day.	\$ 6,138.11
4	1076	07/15/10	4th/Howard work stopped for 1 hour due to archaeological find at 39-TH in front of 4-2 Market Street and gased hole.	\$ 442.23
5	Demover001	4/23/2010	Archeological Discovery preparatory meeting with Synergy and NURF rep.	\$ 851.17
6	1085	07/22/10	Work stopped for 2 hours due to archaeological find at Moscone Driveway, shored and plated hole.	\$ 1,496.31
7	10730	10/07/10	Mobilization of Forklift to Sonoma State University for Archeological Research of Soil that was removed from jobsite	\$ 890.64
8	10711	10/07/10	Pedestrian and traffic control setup for Archeological mitigation work.	\$ 1,048.93
9	10711	10/07/10	Archeological mitigation support work (first day) holes 1 & 4 on 4th between Howard and Clementina	\$ 6,482.81
10	10910	10/08/10	Continue archeological mitigation support work for holes 1 & 4 on 4th between Howard and Clementina	\$ 1,344.23
11	101100.1	10/11/10	Continue archeological mitigation support work at hole 3 on 4th St between Howard and Clementina	\$ 3,356.49
12	101110.1	10/12/10	Continue archeological mitigation support work at hole 3 on 4th between Howard and Clementina	\$ 1,564.45
13	101100.1	10/13/10	Continue archeological mitigation support work at hole 3 on 4th St between Howard and Clementina	\$ 4,128.43
14	101410.1	10/14/10	Continue archeological mitigation support work at hole 3 on 4th St between Howard and Clementina	\$ 1,128.43
15	101500.1	10/15/10	Archeological mitigation support work at location 1 on east side of 4th St. (Mry vault #3444)	\$ 1,128.43
16	101800.1	10/18/10	Archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveway)	\$ 1,145.21
17	101900.1	10/19/10	Continue archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveway)	\$ 4,171.71
18	102000.1	10/20/10	Continue archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveway)	\$ 1,843.20
19	101000.1	10/20/10	Archeological mitigation support work; mobilize skid steer to Sonoma State University in preparation for off haul of silted jet.	\$ 662.41
20	102110.1	10/21/10	Continued archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveway)	\$ 1,118.96
21	102110.1	10/22/10	Continued archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveway)	\$ 4,209.77
22	102310.1	10/23/10	Continued archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveway)	\$ 4,264.76

Item #	Item Number	Date performed	Description of Work	Unit	Total
23	103810.1	10/28/10	Continued archaeological mitigation support work at location 1 on east side of 4th St. (Moscone Driveway)	5	6,039.71
24	111010.1	11/10/10	Archaeological mitigation support work - install trench to Sonoma State University to offload dirt	5	1,778.10
25	111010.2	11/10/10	Archaeological mitigation support work at location 2 on east side of 4th St (north of Moscone Driveway)	5	1,674.29
26	113001	11/11/10	Continued archaeological mitigation support work at location 3 on east side of 4th St (north of Moscone Driveway)	5	5,057.70
27	115001	11/12/10	Archaeological mitigation support work - spread rock at Sonoma State and watch 4th Street yard	5	4,325.23
28	115001	11/15/10	Archaeological mitigation support work at on east side of 4th St (Sta 154+20 at south of Moscone Driveway)	5	5,882.21
29	115004	11/15/11	Continued archaeological mitigation support work at on east side of 4th St (Sta 154+20 at south of Moscone Driveway)	5	5,282.05
30	115006	11/16/11	Continued archaeological mitigation support work on east side of 4th St (Sta 154+20 at south of Moscone Driveway)	5	6,008.18
31	120401 REV1	01/11/11	Archaeological mitigation support work at 220 4th St. for PG&E vault 1495	5	3,171.25
32	120402 REV1	01/10/11	Continued archaeological mitigation support work at 220 4th St. for PG&E vault 1496	5	3,171.25
33	120501 REV1	01/19/11	Archaeological mitigation support work at 220 4th St. (AT&T and PG&E telegraph vault)	5	3,171.25
34	120452 REV2	01/20/11	Continued archaeological mitigation support work at 220 4th St. for PG&E vault 1495	5	2,417.44
35	61216	5/12/2010	Archaeological training involving all of Sonery's foremen, laborers, operators and superintendents to be able to identify potential archaeological items.	1	6,001.07
36	1431	8/21/2010	Archaeological mitigation support work at Moscone Driveway. Add re-weld plates at AT&T 5th A.	1	1,671.25
37	10713	09/7/2009	Archaeological mitigation support work on 4th Street	1	1,138.25
38	115008	11/17/2009	Archaeological mitigation support work - demolition of equipment from Sonoma State University to 4th Street yard	1	803.55
39	119817	11/04/2010	Removal of 14" HDPE back to 4th & Tenth St (this is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	5	924.47
40	115824	1/5/2011	Excavation of AT&T trench on 4th St. between Howard and Clementina. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	5	1,782.07
41	120801	1/4/2011	Continued excavation of AT&T trench on 4th St. between Howard and Clementina. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	5	4,382.56
42	125004	1/5/2011	Excavation of TPC vault to remove steel duct on 4th St. between Howard and Clementina. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	1	1,358.09
43	120809	1/6/2011	Excavation for AT&T crossing on east side of 4th St. between Howard and Clementina (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	5	1,785.55
44	125000	1/6/2011	Excavation of gas line 6" corr of main vault on 4th St. east side between Howard/Clementina (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	5	1,461.31
45	125003	1/7/2011	Shut out & excavate for 2" water service at 150 4th St. for trench to be into existing condition prior to holidays (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	3	1,131.14
46	129001	1/7/2011	Frontal's scope was checked by Mike Boyka (archaeologist) at 220 4th St. for inspection	3	75.28
47	129001	1/7/2011	Equipment stands due to inspection activity by Mike Boyka in the gas trench	1	218.51

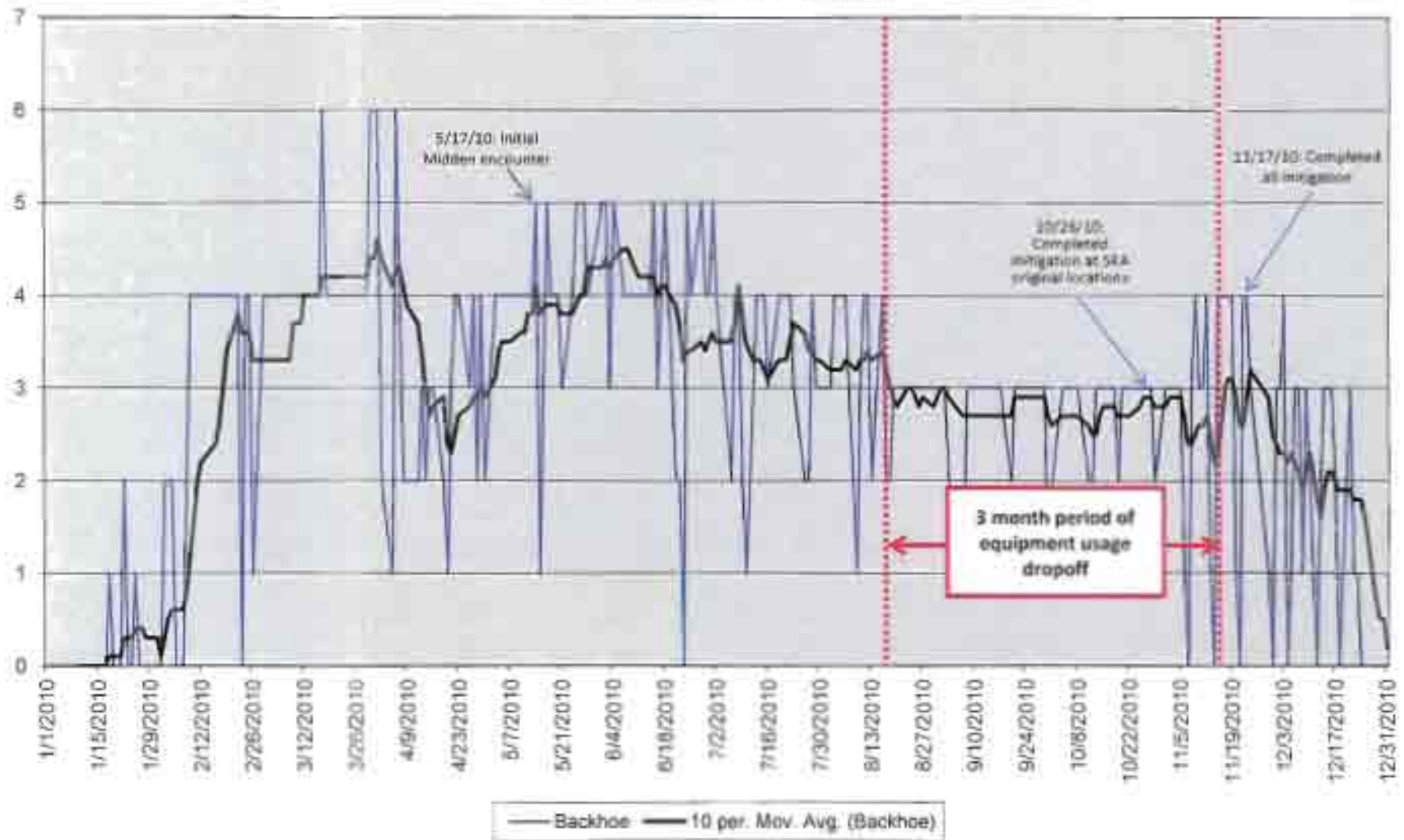
Item #	Party Account #	Date Performed	Description of Work	Total
48	125036	1/10/2011	Excavation of PGE electrical trench at 250 4th St. back to the condition it was prior to holiday shutdown. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 604.17
49	125037	1/10/2011	Excavation of gas service connection at 4th St. back to condition prior to holiday shutdown (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 1,021.18
50	125043	1/12/2011	Archaeological mitigation support at south side of ATT vault on 4th St. from Howard to Claverina	\$ 2,899.27
51	125045	1/13/2011	Archaeological mitigation support at 220 4th St. south side of A&T vault	\$ 3,476.75
52	125047	1/14/2011	Continued archaeological mitigation support at 220 4th St.	\$ 3,476.75
55	125035	1/10/2011	Excavation for 2" water service at 250 4th St. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 473.84
54	125053	2/1/2011	Fill in area with slurry where archaeological excavation of Middle layer occurred. Area excavated could not be compacted due to tight space, hence necessitating slurry fill. Piled forms between new duct structure and existing	\$ 2,394.38
55	125054	2/2/2011	Excavate TPC trench to existing condition prior to holiday restoration. Backfill and plate trench (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 5,985.03
56	125055	2/3/2011	Excavating NRY trench to existing condition prior to holiday restoration. Backfill and plate trench (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 5,062.03
57	1099.2	07/03/10	Unpaid items from FAR 1056.1. Some items were omitted for payment due to lack of documentation. Required documentation has since been submitted.	\$ 64.11
58	1099.1	07/22/10	Unpaid items from FAR 1059.1. Foreman was not on Certified Payroll at the time of review of original FAR. It has since been corrected.	\$ 221.64

**MOBILIZATION AND EQUIPMENT STANDBY
COST SUMMARY
(PART 3)**

SFMTA Central Subway CN 1250
 Archeological Delay Equipment Standby Costs
Excavator Usage
 (as tracked in SFMTA Field Inspector Daily Reports)



SFMTA Central Subway CN 1250
 Archeological Delay Equipment Standby Costs
Backhoe Usage
 (as tracked in SFMTA Field Inspector Daily Reports)



SFMTA Central Subway CN 1250
 Archeological Delay Equipment Standby Costs
 (3 MONTH DURATION WITHOUT 3-AXEL TRUCK)

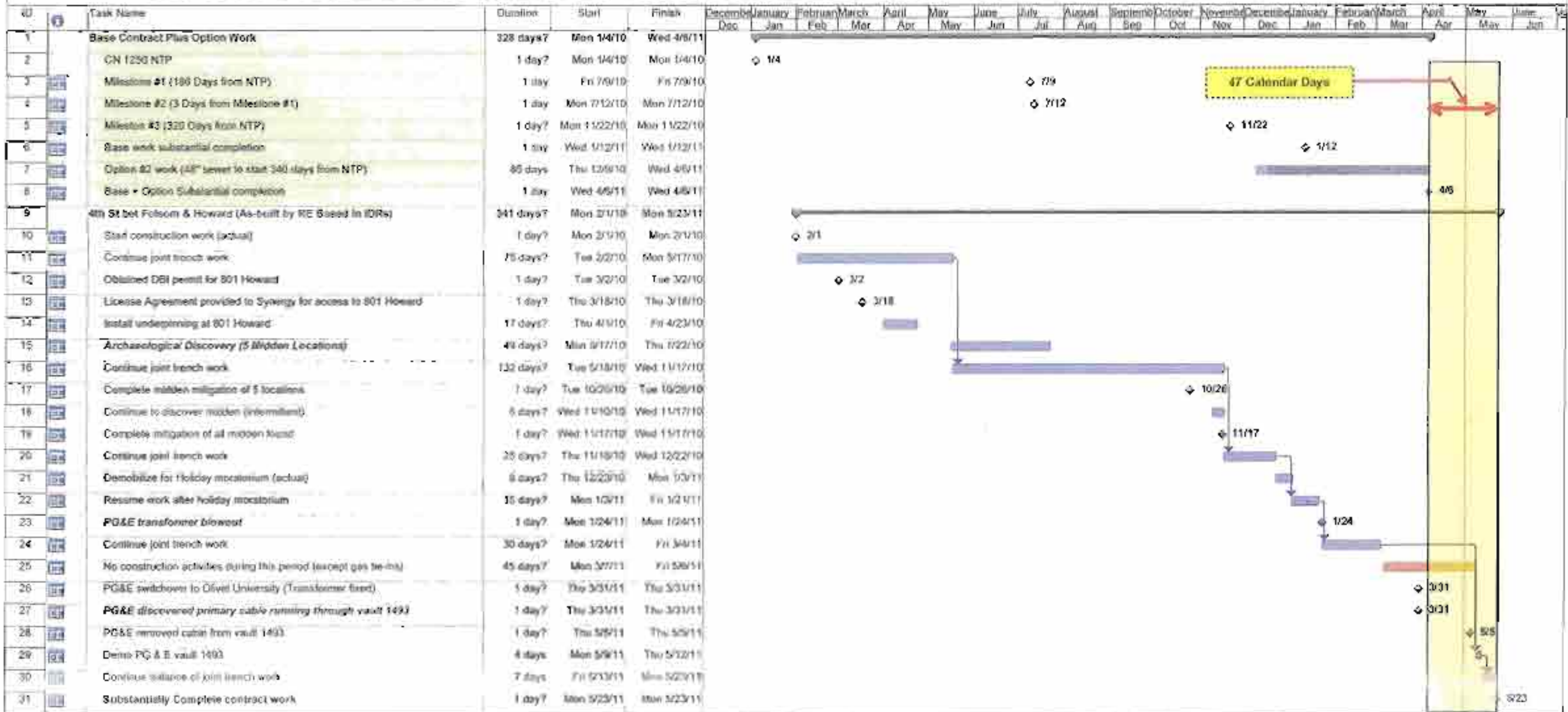
ACTIVITY	DAYS	Hourly Rates:						LABOR TOTALS	Service Truck	Traffic Control	3-Axel Truck	Backhoe	Breaker Only	Mini Excavator	New Holland	200 Excavator	Pile Driver	EQUIPMENT TOTALS
		Foreman	Operators	Laborers	Flaggers	Drivers	Hourly Rate:											
Crew 1 Equipment Standby (8/18/10 - 11/18/10 = 90 work days)	90	\$ 13.00	\$ 17.00	\$ 02.00	\$ 02.00	\$ 01.00												
Crew 2 Equipment Standby (8/19/10 - 11/19/10 = 90 work days)	90																	
STANDBY EQUIPMENT SUBTOTAL																	\$ 47,965.80	

ACTIVITY	DAYS	Hourly Rates:						LABOR TOTALS	Service Truck	Traffic Control	3-Axel Truck	Backhoe	Breaker Only	Mini Excavator	New Holland	200 Excavator	Pile Driver	EQUIPMENT TOTALS
		Foreman	Operators	Laborers	Flaggers	Drivers	Hourly Rate:											
Move and Demobe for Monotolum	1.5	\$ 13.00	\$ 17.00	\$ 02.00	\$ 02.00	\$ 01.00	\$ 5,004.00	1	1	1	1							\$ 4,354.14
DEMOMOVE SUBTOTAL																	\$ 4,354.14	

SUMMARY TABLE		
	SUBTOTAL	(W MARKUP)
LABOR	\$ 5,004.00	\$ 5,754.60
MATERIAL	\$ -	\$ -
EQUIPMENT	\$ 52,652.92	\$ 60,550.35
BID ITEM	\$ -	\$ -
SUB	\$ -	\$ -
B&I (2.146%)		\$ 1,422.92
TOTAL		\$ 67,728.37

**ADDITIONAL OVERHEAD/INDIRECT COSTS
W/ SUPPORTING SCHEDULE
(PART 4)**

CN 1250 SCHEDULE ANALYSIS FOR ARCHAEOLOGICAL DISCOVERY AND PG&E ISSUES



Project: Archaeological Delay TIA not
Date: Tue 7/24/12

Task		Project Summary		Inactive Task		Duration-only		Finish-only	
Split		External Tasks		Inactive Milestone		Manual Summary Rollup		Progress	
Milestone		External Milestone		Inactive Summary		Manual Summary		Deadline	
Summary		Inactive Task		Manual Task		Start-only			

COPY

CMB Change No.: CMB - 0041

Initial Implementing Change Control Procedure No.: 1250 - CMod #20



Part 2 of 4

Part 3 of 4

GENERAL	
Proposed Change Sponsor:	M. Acosta
Received by CMB:	02/15/2012 (Date)
Affected Disciplines:	Traffic Specifications Utility Civil
Impacts of Change	Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS			
	Signatures		Date
	Agree with the Change	Disagree with the Change	
Senior Program Manager:			
Deputy Program Manager:			2/15/2012
PM Project Services:			
PM Project Development/Delivery:			2/15/2012
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			

Comments

This CMod #20 revision addresses Part 2 of 4 and Part 3 of 4 from the original modification as presented at CMB meeting #42 - 07/13/2011 (see attached original CMod #20).

2/15/12 - Agree contingent upon corrections to backup documentation.

2/29/12 - RE to develop a detail analysis & backup documentation to support statements of no schedule impact due to this change. 3/1/12 - RE to revise analysis to show critical path before archeological delay. 5/20/12 - This item will be handled thru claims process.



CONTRACT MODIFICATION NO. 20
Costs Associated with Archeological Discoveries

- ~~Part 1 of 4: Equipment Standby~~
- Part 2 of 4: Rental/Maintenance Costs for Support of Archeological Trenches**
- Part 3 of 4: Additional Work as a Result of Archeological Shutdown Including Support Work**
- ~~Part 4 of 4: Additional Overhead/Indirect Costs During Archeological Delay Period~~

SFMTA Contract No. 1250
MOSCONE STATION AND PORTAL
UTILITIES RELOCATION

Contractor: Synergy Project Management Inc.
150 Executive Park Blvd., Suite 4750
San Francisco, Ca 94134

SUPPLEMENTAL ANALYSIS (For CMB Presentation)

SCOPE OF WORK:

RENTAL/MAINTENANCE COSTS FOR PROTECTION OF ARCHEOLOGICAL TRENCHES

Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period. In addition to rental costs, compensation also includes trench protection maintenance costs including, but not limited to, re-shoring and re-welding of plates as required to ensure continued trench protection.

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

Compensate Contractor for directly supporting archeologists' mitigation activities. Support work includes, but is not limited to the following activities:

- Training crew how to recognize and properly respond to discovery of archeological findings
- Shutting down of work areas upon discoveries
- Hand removal of excavated soils and transportation to yard for intermediate processing
- Transportation of soils and equipment to and from Sonoma State University for final processing

Refer to the attached Force Account Report (FAR) table for a complete list of support work activities included as part of this Contract Modification.

REASON FOR CHANGE:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES

During the mitigation process approval period and subsequent mitigation work, the Contractor was required to protect the trenches and excavated areas containing archeological findings. This trench protection necessitated the use of the additional steel plates, hydraulic shoring, and triton barriers compensated under this Contract Modification.

In addition to direct trench protection equipment rental costs, there are additional cost related to the maintenance of the Contractor's trench protection infrastructure. This maintenance work was required to ensure continued safe hydraulic jacking pressure and sufficient welding of steel plates on the road surface.



SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

Upon initial discovery of archeological findings, the Contractor's entire crew was required to complete an archeological indoctrination program. In these meetings the Contractor's crew was taught how to properly identify and respond to archeological findings. Completion of these training programs ensured that the execution of CN 1250 work did not cause irreversible damage to or loss of historic archeological materials.

During mitigation efforts, the SFMTA requested that the Contractor's crew assist in the removal of archeological findings soils from the Project limits as required to conduct analysis. This support work, as directed and supervised by the Sonoma State University archeologists, ensured archeological findings were promptly moved offsite as required to complete mitigation as needed to resume Contract work in the affected areas.

TOTAL MODIFICATION VALUE:

	\$199,741.54	Archeologist Support Work	SFMTA Approved Force Account Reports
+	\$255,840.49	Plates and Barriers (Rental/Maintenance)	SFMTA Approved Force Account Reports
	\$455,582.03	Force Account Total	
-	\$50,000.00	Existing GE-5 Allowance for Arch. Discoveries	
	\$405,582.03	Total Modification Value	

COST ANALYSIS:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES

All rental/maintenance costs contained herein are based on 24EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeological related trench protection equipment and maintenance costs as incurred during the completion of CN 1250 Contract work. (Note that the lowest of three submitted monthly rental rates was used in order to determine steel plate compensation amount contained herein.)

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

All support work costs contained herein are based on 58EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeologist support work as performed during the completion of CN 1250 (May 2010 to January 2011).

SCHEDULE ANALYSIS:

There is no time impact associated with Contract Modification No. 20.

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SFMTA Central Subway CN 1250
 Moscone Station and Portal Utilities Relocation
 Approved Archeological Force Account Work
PLATES AND BARRIERS (RENTAL AND MAINTENANCE)

Item #	Force Account #	Date Performed	Description of Work	Total
TOTAL OF ALL FARs				\$ 255,840.49
1	1026	06/15/10	At AT&T Vault, additional work re-shore, re-plate and demobilize.	\$ 5,458.00
2	1033	06/17/10	Additional work to secure shoring and plates at the Muni vault.	\$ 3,192.00
3	53110	05/31/10	Rental and maintenance of archaeological site @ PGE vault from 5/17/10-5/31/10 (14 days). Rental and maintenance of archaeological site @ MRY from 5/19/10-5/31/10 (12 days).	\$ 21,884.16
4	1084	07/23/10	Additional work to re-weld plates at 4th/Howard.	\$ 453.98
5	1086	June	Rental of plates, jacks, shore, barriers 6/1/10 - 6/30/10 for all archaeological discoveries between 4th Street/Howard to 4th Street/Folsom (except in front of Moscone driveway).	\$ 21,761.76
6	1087	July	Rental of plates, jacks, shore, barriers 7/1/10 - 7/31/10 for all archaeological discoveries between 4th Street/Howard to 4th Street/Folsom (except in front of Moscone driveway).	\$ 21,761.76
7	1125	08/01/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of August (from northend of Moscone driveway to NE corner of 4th/Folsom).	\$ 31,326.63
8	1126	08/01/10	Rental of plates, shores, and barriers 8/1/10 - 8/31/10 for all archaeological discoveries for PG&E, ATT, MRY work between 4th/Howard to Folsom except in front of Moscone driveway and Water Dept.	\$ 21,761.76
9	1127	08/01/10	Rental of plates at the Water Dept. holes on 4th between Howard and Folsom for the month of August.	\$ 1,339.58
10	1151	09/30/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of September, 2010	\$ 31,326.63
11	1152	09/30/10	Rental of plates for the Water Dept. hole on 4th between Howard and Folsom	\$ 1,339.58
12	1153	09/30/10	Rental of plates, shores, and barriers 9/1/10 - 9/30/10 for all archaeological discoveries for PG&E, ATT, MRY work between 4th/Howard to Folsom except in front of Moscone driveway and Water Dept.	\$ 21,761.76
13	1059	07/02/10	Additional work to re-weld cutback for AT&T MH'A and MRY 554A .	\$ 784.30
14	1200	10/1/10 - 10/31/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of October, 2010	\$ 31,326.63
15	1201	10/1/10 - 10/31/10	Rental of plates for the Water Department Hole on 4th between Folsom and Howard for the month of October, 2010.	\$ 1,339.58
16	1202	10/1/10 - 10/31/10	Rental of Plates, Jacks, Shores and Barriers 10/1/10 to 10/31/10 for all Archaeological Discoveries between 4th/Howard to 4th/Folsom (except in front of Moscone Driveway and Water Department).	\$ 21,761.76
17	1203	10/1/10 - 10/31/10	Additional Triton Barriers for Archaeological Excavation for AT&T, PG&E and MRY for the month of October	\$ 2,642.87
18	1088	7/22/2010	Rental of plates, shoring and barriers at the Moscone Driveway 7/22/10 - 7/31/10	\$ 3,386.45
19	1142	9/3/2010	AT&T manhole and LPFH #1: Maintain (re-set and re-weld) steel plates over archaeological holes on 4th Street between Howard and Folsom.	\$ 550.55
20	1102	8/9/2010	4th/Folsom-Howard: Additional work to re-shore, jack and re-weld archaeological holes.	\$ 4,537.48
21	1108	8/10/2010	4th/Folsom-Howard: Additional work to continue to re-shore and re-weld archaeological holes.	\$ 887.42
22	1116	8/16/2010	4th/Folsom-Howard: Additional work to re-weld plates on archaeological holes.	\$ 781.52
23	1137	8/26/2010	4th/Folsom-Howard Additional work to re-weld plates on AT&T MH A	\$ 1,282.73
24	1139	8/31/2010	JT trench Folsom - Howard East - work to maintain site and re-weld plates	\$ 3,191.60

Item #	Force Account #	Date Performed	Description of Work	Total
49	125037	1/10/2011	Excavation of gas service connection at 4th St. back to condition prior to holiday shutdown (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 1,023.18
50	125043	1/12/2011	Archaeological mitigation support at south side of ATT vault on 4th St. from Howard to Clementina	\$ 2,839.27
51	125045	1/13/2011	Archaeological mitigation support at 220 4th St. south side of AT&T vault	\$ 3,476.75
52	125047	1/14/2011	Continued archaeological mitigation support at 220 4th St.	\$ 3,476.75
53	125035	1/10/2011	Excavation for 2" water service at 250 4th St. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 473.84
54	125053	2/1/2011	Fill in area with slurry where archaeological excavation of Midden layer occurred. Area excavated could not be compacted due to tight space, hence necessitating slurry fill. Pulled forms between new duct structures and existing.	\$ 2,594.38
55	125054	2/2/2011	Excavate TPC trench to existing condition prior to holiday restoration. Backfill and plate trench (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 5,986.09
56	125055	2/3/2011	Excavating MRY trench to existing condition prior to holiday restoration. Backfill and plate trench (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 5,082.03
57	1059.2	07/01/10	Unpaid Items from FAR 1059.1. Some items were omitted for payment due to lack of documentation. Required documentation has since been submitted.	\$ 64.31
58	1089.1	07/22/10	Unpaid Items from FAR 1089.1. Foreman was not on Certified Payroll at the time of review of original FAR; it has since been corrected.	\$ 221.44

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Item #	Force Account #	Date Performed	Description of Work	Total
23	102610.1	10/26/10	Continued archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 6,039.77
24	111010.1	11/10/10	Archaeological mitigation support work: moved forklift to Sonoma State University to offload dirt	\$ 1,778.10
25	111010.2	11/10/10	Archaeological mitigation support work at location 6 on east side of 4th St (north of Moscone Driveway).	\$ 1,674.29
26	125001	11/11/10	Continued archaeological mitigation support work at location 6 on east side of 4th St (north of Moscone Driveway).	\$ 5,057.70
27	125002	11/12/10	Archaeological mitigation support work, spread rock at Sonoma State and watch 4th Street yard	\$ 4,315.25
28	125003	11/13/10	Archaeological mitigation support work at on east side of 4th St (sta 154+20 at south of Moscone Driveway).	\$ 5,888.21
29	125004	11/15/11	Continued archaeological mitigation support work at on east side of 4th St (sta 154+20 at south of Moscone Driveway).	\$ 5,282.65
30	125006	11/16/11	Continued archaeological mitigation support work at on east side of 4th St (sta 154+20 at south of Moscone Driveway).	\$ 4,016.18
31	125049 REV1	01/17/01	Archaeological mitigation support work at 220 4th St. for PG&E vault 1495	\$ 3,172.29
32	125050 REV1	01/18/11	Continued archaeological mitigation support work at 220 4th St. for PG&E vault 1495	\$ 3,172.29
33	125051 REV1	01/19/11	Archaeological mitigation support work at 220 4th St. (AT& T and PG&E Intercept Vault).	\$ 3,172.29
34	125052 REV2	01/20/11	Continued archaeological mitigation support work at 220 4th St. for PG&E vault 1495	\$ 2,417.44
35	51210	5/12/2010	Archeological training involving all of Synergy's foremen, laborers, operators and superintendents to be able to identify potential archaeological items.	\$ 6,021.07
36	1131	8/23/2010	Archaeological mitigation support work at Moscone Driveway. Also re-weld plates at AT&T MH A.	\$ 1,671.05
37	10713	10/7/2010	Archaeological mitigation support work on 4th Street	\$ 1,338.85
38	125009	11/17/2010	Archaeological mitigation support work - demobilization of equipment from Sonoma State University to 4th Street yard	\$ 810.55
39	125017	11/24/2010	Remobilization of 14" HDPE back to 4th & Folsom St (this is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work).	\$ 924.47
40	125024	1/3/2011	Excavation of AT&T trench on 4th St. between Howard and Clementina. (this is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work).	\$ 5,780.97
41	125025	1/4/2011	Continued excavation of AT&T trench on 4th St. between Howard and Clementina. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 4,382.56
42	125026	1/3/2011	Excavation of TPC vault to continue quad ducts on 4th St. between Howard and Clementina. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 2,359.09
43	125029	1/6/2011	Excavation for AT&T crossing on east side of 4th St. between Howard and Clementina (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 3,789.59
44	125030	1/6/2011	Excavation of gas line 6" north of muni vault on 4th St. east side between Howard/Clementina (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 1,462.32
45	125031	1/7/2011	Saw cut & excavate for 2" water service at 250 4th St. for trench to be into existing condition prior to Holidays (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 1,332.24
46	125032	1/7/2011	Francisco's crew was stopped by Mike Stoyka (archaeologist) at 220 4th St. for inspection.	\$ 76.20
47	125033	1/7/2011	Equipment standby due to inspection activity by Mike Stoyka in the gas trench	\$ 218.51
48	125036	1/10/2011	Excavation of PGE electrical trench at 250 4th St. back to the condition it was prior to holiday shutdown. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Moratorium condition prior to continuing contract work)	\$ 604.17

SFMTA Central Subway CN 1250

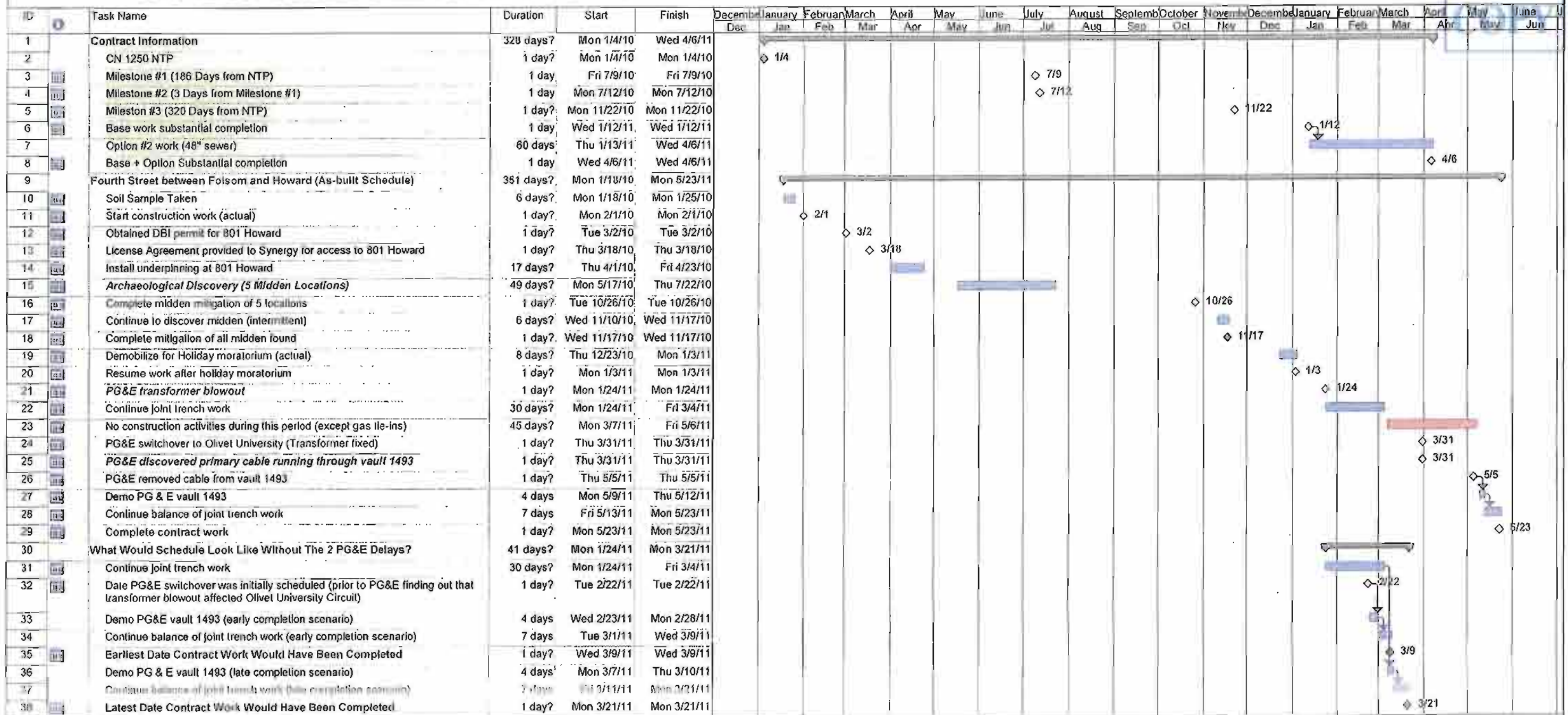
Moscone Station and Portal Utilities Relocation

ADDITIONAL WORK AS A RESULT OF ARCHEOLOGICAL SHUTDOWN INCLUDING SUPPORT WORK

Item #	Force Account #	Date Performed	Description of Work	Total
TOTAL OF ALL FARs				\$ 199,741.54
1	166	06/02/10	Build pedestrian bridge over PG&E vault 1493 hole located in the sidewalk area.	\$ 1,212.00
2	51910	05/17/10	Shutdown of PG&E vault installation at 4th and Howard as a result of archaeological finding. Work involves shoring and plating hole and demobilization for the day.	\$ 5,930.24
3	51910.B	05/19/10	Shutdown of MRY vault installation at 4th and Howard as a result of archaeological find. Work involves shoring, plating and demobilization for the day.	\$ 6,238.11
4	1076	07/15/10	4th/Howard: work stopped for 1 hour due to archaeological find at LP-FH in front of A-Z Market, shored and plated hole.	\$ 442.22
5	Donovan001	4/23/2010	Archeological Discovery preparatory meeting with Synergy and MUNI rep	\$ 832.17
6	1089	07/22/10	Work stopped for 2 hours due to archaeological find at Moscone Driveway, shored and plated hole.	\$ 1,486.31
7	10710	10/07/10	Mobilization of Forklift to Sonoma State University for Archaeological Research of Soil that was removed from jobsite.	\$ 690.64
8	10711	10/07/10	Pedestrian and traffic control setup for Archaeological mitigation work.	\$ 1,048.93
9	10712	10/07/10	Archaeological mitigation support work (first day) holes 1 & 4 on 4th between Howard and Clementina	\$ 6,480.81
10	10810	10/08/10	Continue archaeological mitigation support work for holes 1 & 4 on 4th between Howard and Clementina.	\$ 5,544.13
11	101110.1	10/11/10	Continue archaeological mitigation support work at hole 3 on 4th St between Howard and Clementina.	\$ 6,354.49
12	101210.1	10/12/10	Continue archaeological mitigation support work at hole 3 on 4th between Howard and Clementina.	\$ 6,354.49
13	101310.1	10/13/10	Continue archaeological mitigation support work at hole 3 on 4th St between Howard and Clementina.	\$ 6,228.43
14	101410.1	10/14/10	Continue archaeological mitigation support work at hole 3 on 4th St between Howard and Clementina.	\$ 6,228.43
15	101510.1	10/15/10	Archaeological mitigation support work at location 2 on east side of 4th St. (Mry vault #544A).	\$ 6,228.43
16	101810.1	10/18/10	Archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 5,745.23
17	101910.1	10/19/10	Continue archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 6,131.01
18	102010.1	10/20/10	Continue archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 5,841.23
19	102010.2	10/20/10	Archaeological mitigation support work; mobilize skid steer to Sonoma State University in preparation for off haul of sifted dirt.	\$ 760.61
20	102110.1	10/21/10	Continued archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 5,558.96
21	102210.1	10/22/10	Continued archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 6,039.77
22	102510.1	10/25/10	Continued archaeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveway).	\$ 6,368.78

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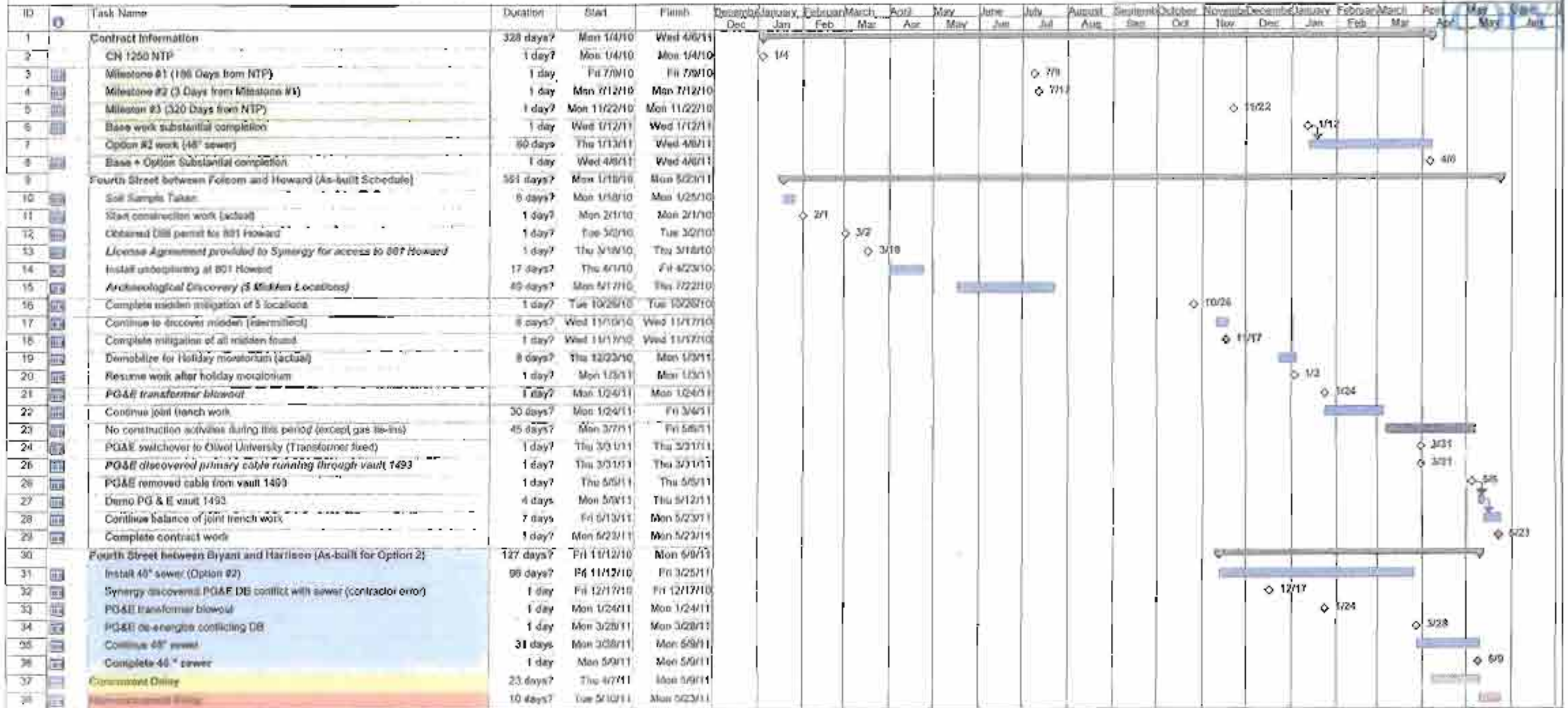
CN 1250 SCHEDULE ANALYSIS FOR ARCHAEOLOGICAL DISCOVERY AND PG&E IMPACTS



Project: Archaeological Delay TIA north
Date: Wed 3/7/12

Task		Project Summary		Inactive Task		Duration-only		Finish-only	
Split		External Tasks		Inactive Milestone		Manual Summary Rollup		Progress	
Milestone		External Milestone		Inactive Summary		Manual Summary		Deadline	
Summary		Inactive Task		Manual Task		Start-only			

CN 1250 SCHEDULE ANALYSIS SHOWING CONCURRENT DELAY



Project: Archaeological Delay TIA Con
Date: Wed 3/7/12

Task		Project Summary		Inactive Task		Duration-only		Flash-only	
Spill		External Tasks		Inactive Milestone		Manual Summary Rollup		Progress	
Milestone		External Milestone		Inactive Summary		Manual Summary		Deadline	
Summary		Inactive Task		Manual Task		Start-only			

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CMB Change No.: CMB - 0041

Initial Implementing Change Control Procedure No.: 1250 - CMod #20

Part 2 of 4
Part 3 of 4

GENERAL	
Proposed Change Sponsor:	M. Acosta
Received by CMB:	02/15/2012 (Date)
Affected Disciplines:	Traffic Specifications Utility Civil
Impacts of Change	Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS			
	Signatures		Date
	Agree with the Change	Disagree with the Change	
Senior Program Manager:			
Deputy Program Manager:			2/15/2012
PM Project Services:			
PM Project Development/Delivery:			2/15/2012
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			

Comments

This CMod #20 revision addresses Part 2 of 4 and Part 3 of 4 from the original modification as presented at CMB meeting #42 - 07/13/2011 (see attached original CMod #20).

2/15/12 - Agree contingent upon corrections to backup documentation.

2/29/12 - RE to develop a detail analysis & backup documentation to support statements of no schedule impact due to this change.



CONTRACT MODIFICATION NO. 20

Costs Associated with Archeological Discoveries

- ~~Part 1 of 4: Equipment Standby~~
- Part 2 of 4: Rental/Maintenance Costs for Support of Archeological Trenches**
- Part 3 of 4: Additional Work as a Result of Archeological Shutdown Including Support Work**
- ~~Part 4 of 4: Additional Overhead/Indirect Costs During Archeological Delay Period~~

SFMTA Contract No. 1250
MOSCONE STATION AND PORTAL
UTILITIES RELOCATION

Contractor: Synergy Project Management Inc.
150 Executive Park Blvd., Suite 4750
San Francisco, Ca 94134

SUPPLEMENTAL ANALYSIS (For CMB Presentation)

SCOPE OF WORK:

RENTAL/MAINTENANCE COSTS FOR PROTECTION OF ARCHEOLOGICAL TRENCHES

Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period. In addition to rental costs, compensation also includes trench protection maintenance costs including, but not limited to, re-shoring and re-welding of plates as required to ensure continued trench protection.

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

Compensate Contractor for directly supporting archeologists' mitigation activities. Support work includes, but is not limited to the following activities:

- Training crew how to recognize and properly respond to discovery of archeological findings
- Shutting down of work areas upon discoveries
- Hand removal of excavated soils and transportation to yard for intermediate processing
- Transportation of soils and equipment to and from Sonoma State University for final processing

Refer to the attached Force Account Report (FAR) table for a complete list of support work activities included as part of this Contract Modification.

REASON FOR CHANGE:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES

During the mitigation process approval period and subsequent mitigation work, the Contractor was required to protect the trenches and excavated areas containing archeological findings. This trench protection necessitated the use of the additional steel plates, hydraulic shoring, and triton barriers compensated under this Contract Modification.

In addition to direct trench protection equipment rental costs, there are additional cost related to the maintenance of the Contractor's trench protection infrastructure. This maintenance work was required to ensure continued safe hydraulic jacking pressure and sufficient welding of steel plates on the road surface.



SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

Upon initial discovery of archeological findings, the Contractor's entire crew was required to complete an archeological indoctrination program. In these meeting the Contractor's crew was taught how to properly identify and respond to archeological findings. Completion of these training programs ensured that the execution of CN 1250 work did not cause irreversible damage to or loss of historic archeological materials.

During mitigation efforts, the SFMTA requested that the Contractor's crew assist in the removal of archeological findings soils from the Project limits as required to conduct analysis. This support work, as directed and supervised by the Sonoma State University archeologists, ensured archeological findings were promptly moved offsite as required to complete mitigation as needed to resume Contract work in the affected areas.

TOTAL MODIFICATION VALUE:

	\$199,741.54	Archeologist Support Work	SFMTA Approved Force Account Reports
+	\$255,840.49	Plates and Barriers (Rental/Maintenance)	SFMTA Approved Force Account Reports
	<u>\$455,582.03</u>	Force Account Total	
-	\$50,000.00	Existing GE-5 Allowance for Arch. Discoveries	
	<u>\$405,582.03</u>	Total Modification Value	

COST ANALYSIS:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES

All rental/maintenance costs contained herein are based on 24EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeological related trench protection equipment and maintenance costs as incurred during the completion of CN 1250 Contract work. (Note that the lowest of three submitted monthly rental rates was used in order to determine steel plate compensation amount contained herein.)

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

All support work costs contained herein are based on 58EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeologist support work as performed during the completion of CN 1250 (May 2010 to January 2011).

SCHEDULE ANALYSIS:

There is no time impact associated with Contract Modification No. 20.

SFMTA Central Subway CN 1250

Mozzoni Station and Portal Utilities Relocation

ADDITIONAL WORK AS A RESULT OF ARCHEOLOGICAL SHUTDOWN INCLUDING SUPPORT WORK

Item #	Price Reasoning	Date Performed	Description of Work	Unit	Cost
				TOTAL OF ALL PARs	\$ 299,742.24
1	144	06/02/10	Build pedestrian bridge over PG&E vault 1401 hole located in the sidewalk area.	\$	1,211.00
2	11902	05/17/10	Shutdown of PG&E vault installation at 4th and Howard as a result of archeological finding. Work involves shoring and piling hole and demobilization for the day.	\$	8,890.24
3	11910.4	05/19/10	Shutdown of PG&E vault installation at 4th and Howard as a result of archeological find. Work involves shoring, shoring and demobilization for the day.	\$	8,200.11
4	1276	07/15/10	4th/Howard: work stopped for 1 hour due to archeological find at 1F-2H in front of A-C Market, shored and piled hole.	\$	440.22
5	10960001	4/22/2010	Archeological Discovery preparatory meeting with foremen and traffic rep.	\$	822.17
6	1088	07/22/10	Work stopped for 2 hours due to archeological find at Mozzoni Driveway, shored and piled hole.	\$	1,488.21
7	10730	06/07/10	Notification of Forti to Sonoma State University for Archeological Research of Soil Van was removed from jobsite.	\$	690.44
8	10722	10/07/10	Redesign and traffic control setup for Archeological mitigation work.	\$	1,048.89
9	10714	10/07/10	Archeological mitigation support work (first day) holes 1 & 2 on 3th between Howard and Clementine.	\$	6,400.81
10	10810	10/08/10	Continue archeological mitigation support work for holes 1 & 4 on 4th between Howard and Clementine.	\$	8,544.13
11	101110.1	10/11/10	Continue archeological mitigation support work at hole 3 on 4th St between Howard and Clementine.	\$	6,314.80
12	101110.1	10/12/10	Continue archeological mitigation support work at hole 3 on 4th between Howard and Clementine.	\$	6,314.80
13	101310.1	10/13/10	Continue archeological mitigation support work at hole 3 on 4th St between Howard and Clementine.	\$	6,270.49
14	101410.1	10/14/10	Continue archeological mitigation support work at hole 3 on 4th St between Howard and Clementine.	\$	6,270.49
15	101510.1	10/15/10	Archeological mitigation support work at location 2 on east side of 4th St. (Mry vault #349A).	\$	6,228.42
16	101810.1	10/18/10	Archeological mitigation support work at location 3 on east side of 4th St. (Mozzoni Driveway).	\$	3,746.23
17	101910.1	10/19/10	Continue archeological mitigation support work at location 3 on east side of 4th St. (Mozzoni Driveway).	\$	4,331.01
18	100010.1	10/20/10	Continue archeological mitigation support work at location 5 on east side of 4th St. (Mozzoni Driveway).	\$	3,841.23
19	100020.1	10/20/10	Archeological mitigation support work, mobilize and steel to Sonoma State University in preparation for all rest of what day.	\$	760.61
20	101110.1	10/21/10	Continued archeological mitigation support work at location 3 on east side of 4th St. (Mozzoni Driveway).	\$	5,568.96
21	101210.1	10/22/10	Continued archeological mitigation support work at location 5 on east side of 4th St. (Mozzoni Driveway).	\$	6,039.21
22	102410.1	10/24/10	Continued archeological mitigation support work at location 3 on east side of 4th St. (Mozzoni Driveway).	\$	6,388.78

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Item #	Item Summary	Date Performed	Description of work	Qty	Total
23	120101	10/26/10	Continued archaeological mitigation support work at location 5 on east side of 4th St. (between 3rd and 4th St.)	1	6,038.77
24	1110101	11/20/10	Archaeological mitigation support work: moved health to Jonsons State University to afford site	1	1,772.20
25	1110101	11/20/10	Archaeological mitigation support work at location 5 on east side of 4th St. (north of Missouri Street)	1	1,674.25
26	115001	11/15/10	Continued archaeological mitigation support work at location 6 on east side of 4th St. (north of Missouri Street)	1	5,087.20
27	115001	11/15/10	Archaeological mitigation support work, street rock at Jonsons State and watch 4th Street yard	1	4,115.25
28	118001	11/13/10	Archaeological mitigation support work at on east side of 4th St. (on 154x20 at south of Missouri Street)	1	5,386.21
29	120004	11/13/11	Continued archaeological mitigation support work at on east side of 4th St. (on 104x20 at south of Missouri Street)	1	5,282.05
30	120004	11/14/11	Continued archaeological mitigation support work at on east side of 4th St. (on 154x20 at south of Missouri Street)	1	4,016.18
31	120040 80V1	05/17/11	Archaeological mitigation support work at 210 4th St. for PG&E vault 1489	1	3,171.26
32	120040 80V1	05/18/11	Continued archaeological mitigation support work at 210 4th St. for PG&E vault 1495	1	3,172.20
33	120040 80V1	01/08/11	Archaeological mitigation support work at 210 4th St. (AT&T and PG&E Intersect Vault)	1	3,172.20
34	120040 80V1	01/09/11	Continued archaeological mitigation support work at 210 4th St. for PG&E vault 1489	1	2,417.46
35	83210	8/12/2010	Archaeological training including all of Jonson's foreman, followers, operators and supervisors to be able to identify potential archaeological items	1	6,021.07
36	1110	8/13/2010	Archaeological mitigation support work at Missouri (Trenches). Also to work piece at AT&T NH A	1	1,871.00
37	28717	10/17/2010	Archaeological mitigation support work on 4th Street	1	1,988.85
38	125008	11/17/2010	Archaeological mitigation support work: demobilization of equipment from Jonsons State University to 4th Street yard	1	\$10.50
39	125017	11/24/2010	Redistribution of 14' HPT trench to 4th & Polk to (this is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	\$24.41
40	125024	1/3/2011	Excavation of AT&T trench on 4th St. between Howard and Cherokee. (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	5,781.81
41	125015	1/4/2011	Continued excavation of AT&T trench on 4th St. between Howard and Cherokee. (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	4,382.50
42	125038	1/11/2011	Excavation of PG&E vault to continue spot vaults on 4th St. between Howard and Cherokee. (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	2,835.00
43	125029	1/12/2011	Excavation of AT&T trench on east side of 4th St. between Howard and Cherokee. (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	5,785.50
44	125030	1/6/2011	Excavation of gas line 2' north of street vault on 4th St. east side between Howard/Cherokee (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	1,462.31
45	125031	1/7/2011	Excavation of gas line 2' north of street vault on 4th St. east side between Howard/Cherokee (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	1,517.18
46	125032	1/7/2011	Excavation of gas line 2' north of street vault on 4th St. east side between Howard/Cherokee (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	1,517.18
47	125033	1/7/2011	Excavation of gas line 2' north of street vault on 4th St. east side between Howard/Cherokee (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	1,517.18
48	125036	1/10/2011	Excavation of PG&E electrical trench at 210 4th St. back to the condition 2 was prior to utility shutdown. (This is a consequential result of archaeological discovery to re-establish pre-holiday Maximum condition prior to continuing contract work)	1	\$24.17

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Item #	Invoice Item #	Date Performed	Description of Work	Unit	Total
48	120007	1/10/2011	Reversion of gas service connection at 4th St. back to condition prior to holiday shutdown (This is a consequential result of archaeological discovery to re-establish pre-Holiday restoration condition prior to continuing contract work)	\$	1,023.50
49	120049	1/12/2011	Archaeological mitigation support at south side of AT&T vault on 4th St. from Howard to Clementine	\$	2,856.25
51	120045	1/14/2011	Archaeological mitigation support at 220 4th St. south side of AT&T vault	\$	1,476.75
52	120047	1/14/2011	Continued archaeological mitigation support at 220 4th St.	\$	1,476.75
53	120051	1/10/2011	Reversion for 2" water service at 250 4th St. (This is a consequential result of archaeological discovery to re-establish pre-Holiday restoration condition prior to continuing contract work)	\$	475.84
54	120053	1/11/2011	Fill in area with slurry where archaeological excavation of 5000 year old layer occurred. Area excavated could not be compacted due to tight space, hence necessitating slurry fill. Pulled forms between new slab structure and existing	\$	1,794.88
55	120054	1/10/2011	Excavate TPC trench to existing condition prior to holiday restoration. Backfill and plate trench (This is a consequential result of archaeological discovery to re-establish pre-Holiday restoration condition prior to continuing contract work)	\$	1,386.00
56	120052	1/10/2011	Reversing MPD trench to existing condition prior to holiday restoration. Backfill and plate trench (This is a consequential result of archaeological discovery to re-establish pre-Holiday restoration condition prior to continuing contract work)	\$	1,082.00
57	1000.1	01/01/10	Unpaid items from FAX 1000.1. Some items were omitted for payment due to lack of documentation. Required documentation has since been submitted.	\$	44.31
58	1000.1	01/01/10	Unpaid items from FAX 1000.1. Payment was not on Certified Payroll at the time of review of original FAX. It has since been corrected.	\$	221.44

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SPMTA Central Subway CN 1250
 Moscone Station and Portal Utilities Relocation
 Approved Archeological Force Account Work
PLATES AND BARRIERS (RENTAL AND MAINTENANCE)

Task #	Force Account #	Date Performed	Description of Work	Total
			TOTAL OF ALL TASKS	\$ 235,346.41
1	1026	06/15/10	All AT&T work, additional work re-shoring, re-plats and demolition.	3,403.00
2	1033	06/15/10	Additional work to secure shoring and plates at the West vault.	3,182.00
3	10310	05/03/10	Rental and maintenance of archaeological site @ PG&E vault from 5/12/10-5/31/10 (14 days), rental and maintenance of archaeological site @ M&T from 5/25/10-6/11/10 (13 days)	21,894.16
4	1084	07/01/10	Additional work to re-erect plates at 4th/Howard	453.88
5	1086	June	Rental of plates, jacks, shores, barriers 5/1/10 - 6/30/10 for all archaeological discoveries between 4th Street/Howard to 4th Street/Folsom (except in front of Moscone driveway)	21,761.76
6	1087	July	Rental of plates, jacks, shores, barriers 7/1/10 - 7/31/10 for all archaeological discoveries between 4th Street/Howard to 4th Street/Folsom (except in front of Moscone driveway)	21,761.76
7	1145	08/01/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of August (from southeast of Moscone Driveway to 3rd corner of 4th/Folsom)	31,326.41
8	1154	08/01/10	ATT, M&T work between 4th/Howard to Folsom except in front of Moscone driveway and Water Dept	21,761.76
9	1127	08/01/10	Rental of plates at the West Dept. hole on 4th between Howard and Folsom for the month of August.	1,339.57
10	1151	08/01/10	Rental of plates, shoring, and barriers at the Moscone Driveway for the month of September, 2010	21,326.41
11	1152	08/01/10	Rental of plates for the Water Dept. hole on 4th between Howard and Folsom	1,339.57
12	1153	08/30/10	Rental of plates, shores, and barriers 8/1/10 - 8/30/10 for all archaeological discoveries for PG&E, ATT, M&T work between 4th/Howard to Folsom except in front of Moscone driveway and Water Dept.	21,761.76
13	1030	07/01/10	Additional work to re-erect cutoff for AT&T M&T A and M&T 5544	384.30
14	1200	10/01/10 - 10/31/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of October, 2010	21,326.41
15	1201	10/01/10 - 10/31/10	Rental of plates for the Water Department hole on 4th between Folsom and Howard for the month of October, 2010	1,339.56
16	1202	10/01/10 - 10/31/10	Rental of plates, jacks, shores and barriers 10/1/10 to 10/31/10 for all Archaeological Discoveries between 4th/Howard to 4th/Folsom (except in front of Moscone Driveway and Water Department)	21,761.76
17	1083	10/01/10 - 10/31/10	Additional Tilted Barriers for Archeological Excavation for AT&T, PG&E and M&T for the month of October	1,641.87
18	1086	7/22/2010	Rental of plates, shoring and barriers at the Moscone Driveway 7/22/10 - 7/31/10	3,766.41
19	1147	6/27/10	AT&T manhole and 14th #1. Maintain (re-oc) and re-weld steel plates over archaeological holes on 4th Street between Howard and Folsom.	500.18
20	1103	6/9/2010	4th/Folsom-Howard: Additional work to re-shore, seal and re-weld archaeological holes.	4,217.48
21	1108	8/10/2010	4th/Folsom-Howard: Additional work to continue to re-shore and re-weld archaeological holes.	847.41
22	1128	8/28/2010	4th/Folsom-Howard: Additional work to re-weld plates on archaeological holes.	781.51
23	1147	6/28/2010	4th/Folsom-Howard: Additional work to re-weld plates on AT&T 501 A.	1,281.73
24	1188	6/11/2010	1/1 trench Folsom - Howard East - work to maintain site and re-weld plates	3,181.80

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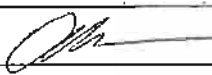
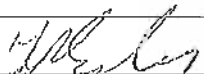
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CMB-0041

CMB Change No.: 1250 = CMod #20

Initial Implementing Change Control Procedure No.: 1250 = CMod #20

Part 2 of 4

Part 3 of 4

GENERAL						
Proposed Change Sponsor:	<u>M. Acosta</u>	Received by CMB:	<u>02/15/2012</u> (Date)			
Affected Disciplines:	<u>Traffic Specifications</u>					
	<u>Utility</u>					
	<u>Civil</u>					
Impacts of Change	Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period					
<u>Contract(s) Directly Affected by this Proposed Change:</u>						
1250	1251	1252	1253	1254	1255	1256
1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)
CONFIGURATION MANAGEMENT BOARD APPROVALS						
Signatures						
	Agree with the Change	Disagree with the Change	Date			
Senior Program Manager:						
Deputy Program Manager:			<u>2/15/2012</u>			
PM Project Services:						
PM Project Development/Delivery:			<u>2/15/2012</u>			
SFMTA O & M Manager:						
SFMTA Safety and Security						
SFCTA PMO						
Comments						
This CMod #20 revision addresses Part 2 of 4 and Part 3 of 4 from the original modification as presented at CMB meeting #42 – 07/13/2011 (see attached original CMod #20).						
<u>2/15/12 Agree contingent upon corrections to backup documentation.</u>						



CONTRACT MODIFICATION NO. 20
Costs Associated with Archeological Discoveries

- ~~Part 1 of 4:~~ ~~Equipment Standby~~
- Part 2 of 4:** **Rental/Maintenance Costs for Support of Archeological Trenches**
- Part 3 of 4:** **Additional Work as a Result of Archeological Shutdown (Including Support Work)**
- ~~Part 4 of 4:~~ ~~Additional Overhead/Indirect Costs During Archeological Delay Period~~

SFMTA Contract No. 1250
MOSCONE STATION AND PORTAL
UTILITIES RELOCATION

Contractor: Synergy Project Management Inc.
150 Executive Park Blvd., Suite 4750
San Francisco, Ca 94134

SUPPLEMENTAL ANALYSIS (For CMB Presentation)

SCOPE OF WORK:

RENTAL/MAINTENANCE COSTS FOR PROTECTION OF ARCHEOLOGICAL TRENCHES

Compensate Contractor for rental of steel plates, hydraulic shoring, and Triton barriers as required to protect trenches containing archeological findings during investigation and mitigation period. In addition to rental costs, compensation also includes trench protection maintenance costs including, but not limited to, re-shoring and re-welding of plates as required to ensure continued trench protection.

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

Compensate Contractor for directly supporting archeologists' mitigation activities. Support work includes, but is not limited to the following activities:

- Training crew how to recognize and properly respond to discovery of archeological findings
- Shutting down of work areas upon discoveries
- Hand removal of excavated soils and transportation to yard for intermediate processing
- Transportation of soils and equipment to and from Sonoma State University for final processing

Refer to the attached Force Account Report (FAR) table for a complete list of support work activities included as part of this Contract Modification.

REASON FOR CHANGE:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES

During the mitigation process approval period and subsequent mitigation work, the Contractor was required to protect the trenches and excavated areas containing archeological findings. This trench protection necessitated the use of the additional steel plates, hydraulic shoring, and triton barriers compensated under this Contract Modification.

In addition to direct trench protection equipment rental costs, there are additional cost related to the maintenance of the Contractor's trench protection infrastructure. This maintenance work was required to ensure continued safe hydraulic jacking pressure and sufficient welding of steel plates on the road surface.



SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

Upon initial discovery of archeological findings, the Contractor's entire crew was required to complete an archeological indoctrination program. In these meeting the Contractor's crew was taught how to properly identify and respond to archeological findings. Completion of these training programs ensured that the execution of CN 1250 work did not cause irreversible damage to or loss of historic archeological materials.

During mitigation efforts, the SFMTA requested that the Contractor's crew assist in the removal of archeological findings soils from the Project limits as required to conduct analysis. This support work, as directed and supervised by the Sonoma State University archeologists, ensured archeological findings were promptly moved offsite as required to complete mitigation as needed to resume Contract work in the affected areas.

TOTAL MODIFICATION VALUE:

	\$199,741.54 Archeologist Support Work	SFMTA Approved Force Account Reports
+	\$281,519.04 Plates and Barriers (Rental/Maintenance)	SFMTA Approved Force Account Reports
	\$481,260.58 Force Account Total	
-	\$50,000.00 Existing GE-5 Allowance for Arch. Discoveries	
	\$431,260.58 Total Modification Value	

COST ANALYSIS:

RENTAL/MAINTENANCE COSTS FOR SUPPORT OF ARCHEOLOGICAL TRENCHES

All rental/maintenance costs contained herein are based on 25EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeological related trench protection equipment and maintenance costs as incurred during the completion of CN 1250 Contract work. (Note that the lowest of three submitted monthly rental rates was used in order to determine steel plate compensation amount contained herein.)

SUPPORT WORK DURING ARCHEOLOGISTS' MITIGATION EFFORTS

All support work costs contained herein are based on 58EA SFMTA approved Force Account Reports (FARs) as listed on attached FAR spreadsheet. These costs represent a complete and final compensation value for all archeologist support work as performed during the completion of CN 1250 (May 2010 to January 2011).

SCHEDULE ANALYSIS:

This Contract Modification does not address the schedule impact, if any, associated with the discovery of archeological findings during the completion of CN 1250 Contract work. Due to failure to meeting Contractual requirements the SFMTA has rejected the Contractor's Change Order Request (COR) related to additional indirect costs resulting from the archeological discoveries discussed herein.

SPMTA Central Subway CV 125D
 Moscone Station and Portal Utilities Relocation

ADDITIONAL WORK AS A RESULT OF ARCHEOLOGICAL SHUTDOWN INCLUDING SUPPORT WORK

Item #	Price Amount	Date Performed	Description of Work	Total
			TOTAL OF All Items	888,743.54
0.1	20000001	4/23/2010	Archeological Discovery preparatory meeting with Synergy and MWH rep.	\$ 800.00
1	200	06/02/10	Build pedestrian bridge over PG&E vault 2483 hole located in the sidewalk wall.	\$ 1,111.00
2	43200	06/17/10	Shutdown of PG&E vault installation at 4th and Howard as a result of archeological finding. Work involved shoring and placing hole and demobilization for the day.	\$ 4,895.00
3	50500	06/24/10	Shutdown of MHI vault installation at 4th and Howard as a result of archeological find. Work involved shoring, placing and demobilization for the day.	\$ 6,178.00
4	1075	07/25/10	4th/Howard work stopped for 3 hour due to archeological find at LP for in front of A-2 Market. Shored and placed hole.	\$ 442.00
5	1085	07/22/10	Work stopped for 2 hours due to archeological find at Moscone Driveaway, shored and placed hole.	\$ 1,485.00
6	10710	10/07/10	Mediation of Forklift at Sonoma State University for Archeological Research of Soil (SAR) was removed from site.	\$ 880.84
8	10711	10/07/10	Redesign and traffic control setup for archeological mitigation work.	\$ 1,048.80
9	10711	10/07/10	Archeological mitigation support work (first day) holes 1 & 4 on 4th between Howard and Clementina.	\$ 1,480.81
10	10810	10/08/10	Continue archeological mitigation support work for holes 1 & 4 on 4th between Howard and Clementina.	\$ 5,544.33
11	101101	10/11/10	Continue archeological mitigation support work at hole 3 on 4th between Howard and Clementina.	\$ 6,354.40
12	101101	10/11/10	Continue archeological mitigation support work at hole 3 on 4th between Howard and Clementina.	\$ 6,354.40
13	102101	10/11/10	Continue archeological mitigation support work at hole 5 on 4th between Howard and Clementina.	\$ 6,228.43
14	101101	10/14/10	Continue archeological mitigation support work at hole 3 on 4th between Howard and Clementina.	\$ 6,228.43
15	101101	10/15/10	Archeological mitigation support work at location 2 on east side of 4th St. (Miy vault R544A).	\$ 6,228.43
16	101101	10/18/10	Archeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveaway).	\$ 5,745.23
17	101910	10/19/10	Continue archeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveaway).	\$ 6,131.01
18	100101	10/20/10	Continue archeological mitigation support work at location 2 on east side of 4th St. (Moscone Driveaway).	\$ 5,841.25
19	100510	10/20/10	Archeological mitigation support work; materials also sent to Sonoma State University in preparation for off load of steel shot.	\$ 780.60
20	101101	10/21/10	Continued archeological mitigation support work at location 3 on east side of 4th St. (Moscone Driveaway).	\$ 5,558.96
21	102101	10/21/10	Continued archeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveaway).	\$ 6,038.77
22	102101	10/25/10	Continued archeological mitigation support work at location 5 on east side of 4th St. (Moscone Driveaway).	\$ 4,988.78

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Item #	Price Account #	Date Performed	Description of Work		Total
23	102610.1	10/20/10	Continued archaeological mitigation support work at location 5 on east side of 4th St. (Missouri Driveway).	1	5,036.77
24	111010.1	11/10/10	Archaeological mitigation support work - moved furniture to Solsome State University to offload dirt	0	-1,778.23
25	111010.2	11/10/10	Archaeological mitigation support work at location 6 on east side of 4th St (south of Missouri Driveway).	1	2,874.26
26	115001	11/11/10	Continued archaeological mitigation support work at location 6 on east side of 4th St (south of Missouri Driveway)	1	5,857.70
27	125001	11/12/10	Archaeological mitigation support work - spread rock at Solsome State and watch 4th Street yard	0	-4,211.23
28	125001	11/13/10	Archaeological mitigation support work at on east side of 4th St (sta 154+00 at south of Missouri Driveway).	1	5,888.21
29	140904	11/15/11	Continued archaeological mitigation support work at on east side of 4th St (sta 154+00 at south of Missouri Driveway)	1	6,287.95
30	125006	11/16/11	Continued archaeological mitigation support work at on east side of 4th St (sta 154+00 at south of Missouri Driveway)	1	-6,016.38
31	125049 REV1	01/17/11	Archaeological mitigation support work at 220 4th St. for PG&E vault 3495	0	1,171.28
32	125050 REV1	01/18/11	Continued archaeological mitigation support work at 220 4th St. for PG&E vault 3495	0	1,171.28
33	125051 REV2	01/19/11	Archaeological mitigation support work at 220 4th St. (ATS T and PG&E Intersect Vault)	0	9,173.28
34	125052 REV2	02/20/11	Continued archaeological mitigation support work at 220 4th St. for PG&E vault 3495	0	-1,417.44
35	51210	5/13/2010	Archaeological training involving all of Sverco's foreman, laborers, operators and superintendants to be able to identify potential archaeological items.	0	6,071.87
37	10712	10/7/2010	Archaeological mitigation support work on 4th Street.	0	1,598.85
38	125009	11/17/2010	Archaeological mitigation support work - demonstration of equipment from Solsome State University to 4th Street yard	0	802.81
39	125017	11/18/2010	Remobilization of 14" HDPE back to 4th & Polson St (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	1	924.47
40	125014	1/3/2011	Excavation of AT&T trench on 4th St. between Howard and Demerita. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	1,788.87
41	125025	1/4/2011	Continued excavation of AT&T trench on 4th St. between Howard and Demerita. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	1,381.78
42	125026	1/3/2011	Excavation of TPC vault to continue vault ducts on 4th St. between Howard and Demerita. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	1,859.08
43	125026	1/6/2011	Excavation for AT&T crossing on east side of 4th St. between Howard and Demerita (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	1,768.58
44	125030	1/6/2011	Excavation of gas line & north of vault vault on 4th St. east side between Howard/Demerita (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	1,487.57
45	125031	1/7/2011	Saw cut & excavate for 1" water service at 250 4th St. for trench to be left existing condition prior to holidays (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	1,551.24
46	125032	1/7/2011	Francisco's crew was stopped by Mike Stovak (archaeologist) at 220 4th St. for inspection.	0	0.00
47	116833	1/7/2011	Equipment stand-by due to inspection activity by Mike Stovak in the gas trench	0	-218.21
47.1	125038	1/10/2011	Excavation for 2" water service at 250 4th St. (This is a consequential result of archaeological discovery to re-establish pre-Holiday Memorandum condition prior to continuing contract work)	0	473.88

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Item #	Comp Account #	Date Performed	Description of Work	Cost
48	12508	2/10/2011	Excavation of PVC electrical trench at 210 4th St. back to the junction it was prior to facility shutdown. (This is a consequential result of archeological discovery to re-establish pre-failure disturbance condition prior to continuing contract work)	\$ 604.17
49	12507	1/10/2011	Excavation of gas service connection at 4th St. back to condenser prior to facility shutdown. (This is a consequential result of archeological discovery to re-establish pre-failure disturbance condition prior to continuing contract work)	\$ 1,033.30
50	12506	1/11/2011	Archaeological mitigation support at south side of AT&T vault on 4th St. from Howard to Cherokee	\$ 1,833.17
51	12505	1/13/2011	Archaeological mitigation support at 120 4th St. south side of AT&T vault	\$ 3,476.75
52	12504	1/14/2011	Continued archaeological mitigation support at 120 4th St.	\$ 1,476.75
53	12503	1/3/2011	Fill in area with slurry where archeological excavation of Mottion layer occurred. Area excavated could not be completed due to tight space. Slurry necessitating slurry fill. Piped for use between new Aut structures and existing	\$ 2,594.30
54	12502	1/2/2011	Excavate TPC trench to existing condition prior to facility restoration. Backfill and grade trench (This is a consequential result of archeological discovery to re-establish pre-failure disturbance condition prior to continuing contract work)	\$ 5,506.08
55	12501	1/2/2011	Excavating WRF trench to existing condition prior to facility restoration. Backfill and grade trench (This is a consequential result of archeological discovery to re-establish pre-failure disturbance condition prior to continuing contract work)	\$ 1,001.03
56	3082	07/01/10	Disput items from 448 1755 L. Some items were permitted for payment due to lack of documentation. Request documentation has since been submitted.	\$ 84.31
57	3083	07/12/10	Disput items from 448 1755 L. Foreman was not on Contract Payroll at the time of review of original job. It has since been corrected.	\$ 111.44
58	110	8/11/2010	Archaeological mitigation support work at Missouri Gateway. Add re-work items at AT&T 4th St.	\$ 1,871.00

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SFMTA Central Subway CN 1250
 Moscone Station and Portal Utilities Resoration
 Approved Archeological Force Account Work
PLATES AND BARRIERS (RENTAL AND MAINTENANCE)

Item #	Force Account #	Date Forfeited	Description of Work	Unit
			TOTAL OF ALL EARS	\$ 291,123.24
1	1026	06/15/10	At AT&T Vault, additional work re-stone, re-plate and demolition	\$ 3,438.00
2	1055	06/17/10	Additional work to secure shoring and plates at the Main vault	\$ 1,151.00
3	10120	05/17/10	Rental and maintenance of archeological site @ P&E vault from 5/17/10-6/31/10 (14 days). Rental and maintenance of archeological site @ MRY from 5/19/10-6/31/10 (13 days)	\$ 21,844.13
4	1084	07/21/10	Additional work to re-weld plates at 4th/Folsom	\$ 453.26
5	1386	Site	Rental of plates, posts, shores, barriers 6/1/10 - 6/30/10 for all archeological discoveries between 4th Street/Folsom to 4th Street/Folsom (except in front of Moscone driveway)	\$ 21,761.76
6	1387	Site	Rental of plates, posts, shores, barriers 7/1/10 - 7/31/10 for all archeological discoveries between 4th Street/Folsom to 4th Street/Folsom (except in front of Moscone driveway)	\$ 21,761.76
6a	1388	7/22/2010	Rental of plates, shoring and barriers at the Moscone Driveway 7/22/10 - 7/31/10	\$ 1,586.43
7	1143	08/04/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of August (three months of Moscone driveway to the corner of 4th Street)	\$ 11,826.83
8	1326	08/05/10	Rental of plates, shores, and barriers 8/1/10 - 8/31/10 for all archeological discoveries for PG&E, AT&T, MRY work between 4th/Folsom to Folsom except in front of Moscone driveway and Water Dept.	\$ 21,761.76
9	1127	08/05/10	Rental of posts at the Water Dept. hole on 4th between Howard and Folsom for the month of August	\$ 1,258.58
10	1331	08/30/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of September, 2010	\$ 11,326.83
11	1332	08/30/10	Rental of plates for the Water Dept. hole on 4th between Howard and Folsom	\$ 1,359.36
12	1133	09/30/10	Rental of plates, shores, and barriers 9/1/10 - 9/30/10 for all archeological discoveries for PG&E, AT&T, MRY work between 4th/Folsom to Folsom except in front of Moscone driveway and Water Dept.	\$ 21,761.76
14	1300	10/2/10 - 10/31/10	Rental of plates, shoring and barriers at the Moscone Driveway for the month of October, 2010	\$ 11,326.83
42	1395	10/1/10 - 10/31/10	Rental of plates for the Water Department hole on 4th between Folsom and Howard for the month of October, 2010	\$ 1,338.50
16	1302	10/2/10 - 10/31/10	Rental of Plates, Posts, Shores and Barriers 10/2/10 to 10/31/10 for all Archeological Discoveries between 4th/Folsom to 4th/Folsom (except in front of Moscone Driveway and Water Department)	\$ 21,761.76
17	1303	10/1/10 - 10/31/10	Additional Work Barriers for Archeological Excavation for AT&T, PG&E and MRY for the month of October	\$ 2,642.69
18	12854	11/15/10	Rental of plates, shoring and barriers 11/15/10 - 12/15/10 (during Thanksgiving)	\$ 25,678.55
19	1009	07/01/10	Additional work to re-weld outback for AT&T MRY and MRY S-544	\$ 704.10
20	1000	8/9/2010	4th/Folsom-Howard: Additional work to re-stone, jacking and re-weld archeological holes	\$ 4,507.84
21	1308	8/10/2010	4th/Folsom-Howard: Additional work to continue to re-stone and re-weld archeological holes	\$ 887.42
22	1318	8/25/2010	4th/Folsom-Howard: Additional work to re-weld plates on archeological holes	\$ 781.32
23	1311	8/26/2010	4th/Folsom-Howard: Additional work to re-weld plates on AT&T site A	\$ 1,282.73
24	1149	8/31/2010	AT MRY/Folsom - Howard East - work to install 2x4s and re-weld plates	\$ 8,121.60

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Item #	Form Account #	Date Performed	Description of Work	Total
25	1142	9/3/2010	AT&T manhole and LPH #1: Maintain (re-set and re-weld) steel plates over archaeological holes on 4th Street between Howard and Folsom.	\$ 550.55

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CMB Change No.: CMB - 0041

Initial Implementing Change Control Procedure No.: 1250 - CMod #20

GENERAL

Proposed Change Sponsor: M. Acosta Received by CMB: 07/13/2011
(Date)

Affected Disciplines: Traffic Specifications
Utility
Civil

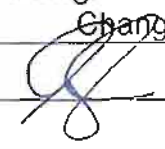
Impacts of Change Compensate Contractor for equipment standby costs for one crew at 116 working days and a second crew at 94 working days.

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

Signatures

	Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			
Deputy Program Manager:			
PM Project Services:			
PM Project Development/Delivery:			
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			

Comments

Approval for Part 1 of 4 only!
NEED ADDITIONAL DOCUMENTATION = JUSTIFICATION AS TO WHY SERVICE VEHICLES = DMP TRUCKS ARE SERVICE CRITICAL



CONTRACT MODIFICATION NO. 20
(Costs Associated with Archeological Delay)

- Part 1 of 4: **Equipment Standby Costs**
- Part 2 of 4: **Rental Costs for Steel Plates and Barriers**
- Part 3 of 4: **Contractor's Costs for Supporting Archeologists Mitigation Activities**
- Part 4 of 4: **Contractor's Time Related Overhead During Delay Period**

SFMTA Contract No. 1250
MOSCONE STATION AND PORTAL
UTILITIES RELOCATION

Contractor: Synergy Project Management Inc.
150 Executive Park Blvd., Suite 4750
San Francisco, Ca 94134

SUPPLEMENTAL ANALYSIS (For CMB Presentation)

SCOPE OF WORK:

Compensate Contractor for equipment standby costs for one crew at 116 working days and a second crew at 94 working days. Types of equipment included are as follows:

- Service Trucks
- Dump Trucks (3-axle)
- Backhoes with pavement breakers
- Compact Hydraulic Excavators
- Hydraulic Excavators
- Vibratory Pile Driving Equipment

This Contract Modification also, compensates the Contractor for costs relating to additional demobilization/remobilization operations. Scope of work for these mobilization operations includes the installation/removal of steel plates, Triton barriers, and other traffic/pedestrian control devices, as well as the moving of equipment to and from the Contractor's yard.

REASON FOR CHANGE:

Due to the archeological discoveries within the project limits on 4th Street between Howard and Folsom Streets, the Contractor was forced to put two crews' worth of equipment on standby while a mitigation plan was established. The inability to proceed with work in a timely manner was due to the lack of a previously established archeological discovery mitigation plan. Upon initial discovery, the SFMTA consulted with the Federal Transit Administration to develop a mitigation plan. Once developed, this plan was then forwarded to the State Historic Preservation Office (SHPO) and local Native American tribal representatives for approval. Once the plan was approved, a local Native American monitor was hired to oversee the mitigation activities. A significant delay resulted due to the amount of agencies and reviews required prior to implementation of the mitigation program. The complexity of the mitigation plan approval process made it difficult for the SFMTA to provide an accurate start date estimate for mitigation activities. This uncertainty resulted in dissuading the Resident Engineer from requesting that the Contractor to demobilize his equipment. As a result, the Contractor kept the subject equipment on site during the mitigation plan approval process. This approval process took approximately four months to complete.

The demobilization/remobilization scope of work is included in this Contract Modification because of the combined effect of the delay (discussed above) and the holiday moratorium shutdown period. Had it not been for the discovery of the archeological findings, the Contractor would have been able to complete work prior to the moratorium thereby not requiring a post-moratorium remobilization back to the area where the findings occurred.



CONTRACTOR'S COST PROPOSAL

\$218,534.39 As Contained in Change Order Request No. 52, received by the SFMTA on May 17, 2011

NEGOTIATED TOTAL COST

\$131,213.50 As negotiated during Change Order meetings on June 15, 2011/June 22, 2011/July 07, 2011

COST ANALYSIS:

To establish fair equipment standby compensation costs the Resident Engineer reviewed SFMTA field inspector's notes and determined that the first crew's archeological delay began on May 17, 2010. It was also determined that the second crew's archeological delay began a month later on June 17, 2010. All archeological discoveries were fully moved offsite by October 26, 2010, at which point all delayed equipment was able to return to work. The two delay periods associated with this COR (May 17, 2010 – October 26, 2010) equate to 210 working days of delay (116 for the first crew and 94 for the second crew).

Once the durations were determined, the appropriate compensation value was determined using Caltrans rates with specified standby modifier factors. Pursuant to Caltrans Delay Specifications, standby compensation is limited to 8 hours a day with a 40 hour per week maximum limit. Following the Caltrans guidelines, it was determined that the Contractor was entitled to \$101,741.46 in equipment standby costs (before contractual markups). Note that the attached table provides a breakdown of this total equipment cost.

In addition to above equipment delay costs, the Contractor is also compensated in this Contract Modification for additional costs related to the mobilization operations discussed on the previous page. It was agreed that demobilizing and remobilizing operations took approximately 8 hours and 4 hours, respectively. The total cost for the additional mobilizations was determined to be \$9,960.12, consisting of \$5,004.00 in labor and \$4,956.12 in equipment costs (before contractual markups). For detailed breakdown of crew and equipment costs associated with mobilization operations, refer to attached table.

With the above agreements, the total negotiated cost associated with COR No. 52 is \$131,213.50. This total consists of \$5,754.60 in labor, \$122,702.22 in equipment costs, and \$2,756.68 of bonds and insurance markup.

SCHEDULE ANALYSIS:

No time extension is requested for Part 1 of Contract Modification No. 21.

SYNERGY PROJECT MANAGEMENT, INC. ^{07/2011}

30 GRANT AVE., SUITE 3001 SAN FRANCISCO, CALIFORNIA 94108
 415.467.3000 | FAX 415.467.3001



SFMTA # 1250 Utility Relocation

Date: July 7, 2011

COR Title: Archological Equipment Standby (5 months x2 crews)

Change Order Request No. 52

Cost Summary	Direct Cost	Subtotal	Overhead & Profit	Total
Labor	\$5,004.00	15%	\$750.60	\$5,754.60
Material	\$0.00	15%	\$0.00	\$0.00
Equipment	\$106,697.58	15%	\$16,004.64	\$122,702.22
Unit priced items	\$0.00	15%	\$0.00	\$0.00
Subs, Permits & Fees	\$0.00	5%	\$0.00	\$0.00
Subtotal	\$111,701.58			\$128,456.82
Bonds & Insurance	\$128,456.82	2.146%	\$2,756.68	\$2,756.68
Total				\$131,213.50
<u>Time Extension Requested (in working days):</u>				TBD

1. Spec. Reference:	GP
2. Drawing Reference:	All
3. What (Description):	Standby for Equipment during Archological Delay. This equipment was sitting while Synergy waited for the owner to get approval to mitigate the archological material. Synergy asked if the owner wanted to demobilize and was told for several months that work was going to restart in 1 to 2 weeks time after time and to be ready with a full crew and equipment when work did restart.
4. Where (Location):	4th Street between Howard and Folsom
5. When (Date):	July 2, 1905
6. How (Rec'd Action):	Per direction from RE

Prepared by Donovan

Subject to July 7, 2011
 Mike Azosta verifying
 rental of vibro.

No.	Materials	Days	Qty	Unit	Unit Price	Extension
1						\$ -
2						\$ -
3						\$ -
4						\$ -
5						\$ -
6						\$ -
7						\$ -
8						\$ -
17						\$ -
18						\$ -
19						\$ -
20						\$ -
21						\$ -
22						\$ -
23						\$ -
24						\$ -
27						\$ -
28						\$ -
29	Sub-total 1					\$ -
30	Sales Tax @ 9.5%					\$ -
31	Sub-total 2					\$ -
32	Shipping @ 2%					\$ -
33	Total					\$ -

COPY

No.	Unit priced items	Times	Qty	Unit	Hour rate	Extension
1						\$ -
2						\$ -
	Total					\$ -

No.	Permits and Fees/ Subcontractors	Times	Qty	Unit	Unit Price	Extension
1						\$ -
2						
3						
4						
5						\$ -
6						\$ -
	Total					\$ -

CMB Change No.: CMB – 0078

Initial Implementing Change Control Procedure No.: 1251 – CMod Trend #37, 44 and 45

GENERAL

Proposed Change Sponsor: M. Acosta Received by CMB: 09/12/2012
(Date)

Affected Disciplines: Utilities
Traffic





- Impacts of Change
1. Trend #37 – Gucci Store Sewer Installation
 2. Trend #44 – Macy's West Sewer Installation
 3. Trend #45 – Union Square Garage Sewer Installation

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

Signatures

	Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			9-12-12
Deputy Program Manager:			9/12/12
PM Project Services:			
PM Project Development/Delivery:			4/12/2012
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			12 Sept 12

Comments

CN 1251 TREND NUMBERS 37, 44 AND 45

SFMTA Contract No. 1251
UNION SQUARE/MARKET STREET STATION
UTILITIES RELOCATION

Contractor: Synergy Project Management Inc.
30 Grant Street, Suite 300
San Francisco, CA 94108

SUPPLEMENTAL ANALYSIS (For CMB Presentation)

SCOPE OF WORK:

Compensate the contractor for additional work due to differing conditions encountered during the installation of sewer infrastructure adjacent to Macy's, Union Square Garage and Gucci Store properties. This Modification is limited to the work contained in 22 Force Account Reports (herein referred to as 'FARs') which the Contractor has provided to SFMTA. A summary table of these reports is attached for reference. The general scope of work includes, but is not limited to, installation of sewer mains, modifications to interior plumbing and additional connection to new sewer mains.

REASON FOR CHANGE:

REASON FOR CHANGES TO MACY'S WEST SEWER INSTALLATION: Contract plan page SW-4 shows an existing sewer lateral at the subject property which is to be connected to a newly installed main. However, the existing 8" lateral is too big to be connected directly to the new 14" main thus necessitating a new direct connection between the lateral and a nearby manhole. Numerous existing utilities within the lateral alignment necessitated that the new lateral be installed at a higher elevation (see photos 1 and 2). Due to the raised lateral invert, plumbing modifications within the subject property were also required.

REASON FOR CHANGES TO UNION SQUARE GARAGE SEWER INSTALLATION: Contract plan page SW-3 shows 2EA existing laterals from the Union Square Garage to be connected to the new main at STA 128+55± (see red lines on photos 3 through 5). However, the laterals were found to be connected to the downstream end of the existing main (towards Geary Street). This portion of the main is to be abandoned in 1251 to make room for the future station. In order to maintain continued sewer service after abandonment of this section of the main, installation of new laterals was required.

REASON FOR CHANGES TO GUCCI STORE SEWER INSTALLATION: Contract plans indicated that the sewer lateral at 234 Stockton Street could connect directly to the 3'x5' sewer main on Maiden Lane (see blue lines on photo 3). However, the laterals were found to be connected to the downstream end of the existing main (towards Geary Street). This portion of the main is to be abandoned in 1251 to make room for the future station. In order to maintain continued sewer service after abandonment of this section of the main, installation of new laterals was required.

COST SUMMARY TABLE:

Trend Number:	Sewer Work Location:	Trended Amount:	Contractor's Cost Proposal	Agreed Cost:
44	Macy's West	\$30,000.00	\$23,649.36	\$20,014.23
45	Union Square Garage	\$48,995.53	\$32,055.96	\$25,145.36
37	Gucci Store	\$40,000.00	\$32,219.94	\$25,926.79
TOTAL		\$118,995.53	\$87,925.26	\$71,086.38

COST ANALYSIS:

Each of the 22 FARs submitted by the Contractor were thoroughly reviewed by SFMTA. Numerous discrepancies were noted by the RE and discussed with the Contractor. After extensive discussions, the Resident Engineer and the Contractor agreed to a total amount of \$71,086.38 to be a fair and reasonable compensation for the extra work performed.

Execution of this Modification will allow SFMTA to compensate the Contractor for differing site condition work encountered during the installation of sewer infrastructure adjacent to Macy's, Union Square Garage and Gucci properties.

SCHEDULE ANALYSIS:

This work does not impact the Substantial Completion Date. There is no time adjustment associated with this Contract Modification.

SUMMARY TABLE FOR CONTRACT MODIFICATION NO. 18
 Differing Conditions Encountered During the Installation of Sewer Infrastructure at Macy's and UMS Garage

Item Number	Force Account Report Number	Date Performed	Description	Synergy Request Amount	SFMTA Approved Amount
1	3066	1/20/2012	O'Farrel West - Sewer tie in at Macy's	\$ 2,159.03	\$ 2,098.91
2	3073	1/25/2012	O'Farrel West - Dig for new sewer tie-in at Macy's. Sewer not depicted correctly on plans.	\$ 375.74	\$ 371.15
3	3077	1/26/2012	O'Farrel West - Sewer repair at Macy's	\$ 4,540.96	\$ 3,488.48
4	3081	1/27/2012	O'Farrel West - Macy's sewer lateral installation	\$ 4,666.98	\$ 2,629.01
5	3087	1/30/2012	O'Farrel West - Macy's Sewer repair	\$ 3,261.62	\$ 3,017.77
6	3089	1/30/2012	O'Farrel West - AT&T line (repair) at Macy's sewer location	\$ 1,145.34	\$ 909.22
7	Pipe Infill	N/A	SFMTA Estimate for Pipe Infill at Macy's	\$ 7,499.69	\$ 7,499.69
Macy's West Subtotal				\$ 23,649.36	\$ 20,014.23
8	3273	4/20/2012	Excavation for sewer incorrectly depicted on Contract documents at Stockton West between Maiden Land and Post	\$ 6,355.48	\$ 4,952.71
9	3276	4/23/2012	Dig for sewer lateral from parking garage on Stockton. Sewer lateral not per Contract drawings.	\$ 6,985.95	\$ 5,224.73
10	3280	4/24/2012	Dig for sewer lateral from parking garage on Stockton. Sewer lateral not per Contract drawings.	\$ 4,265.86	\$ 4,805.76
11	3283	4/25/2012	Dig for sewer lateral from parking garage on Stockton. Sewer lateral not per Contract drawings.	\$ 9,423.37	\$ 5,136.86
12	Misc Plumbing	N/A	SFMTA Estimate for Misc Plumbing in Union Square Garage	\$ 5,025.30	\$ 5,025.30
Union Square Garage Subtotal				\$ 32,055.96	\$ 25,145.36
13	Works Plumbing	7/11/2012	Misc. plumbing work inside 234 Stockton Street basement as required to reroute sewer connection	\$ 7,598.24	\$ 7,598.24
14	3429	7/9/2012	Dig sewer lateral at 234 Stockton. Change in condition.	\$ 4,735.57	\$ 3,739.73
15	3431	7/10/2012	Dig sewer lateral at 234 Stockton. Change in condition.	\$ 5,000.35	\$ 3,008.28
16	3434	7/11/2012	Dig sewer lateral for 234 Stockton. Change in plans.	\$ 4,375.31	\$ 2,838.53
17	3437	7/17/2012	Dig for sewer connection 234 Stockton. Change from drawings.	\$ 931.41	\$ 736.93
18	3441	7/18/2012	Core into existing building at 234 Stockton for new sewer connection (change in plans).	\$ 426.04	\$ 1,267.10
19	3444	7/12/2012	Verify and install 8" VCP for sewer connection at Gucci.	\$ 2,546.92	\$ 2,071.28
20	3458	7/30/2012	Backfill sewer at 240 Stockton (Maiden Lane).	\$ 1,843.32	\$ 1,225.16
21	3461	7/31/2012	Backfill sewer at 240 Stockton (Maiden Lane).	\$ 3,635.10	\$ 2,398.78
22	3477	8/6/2012	Installation of sewer at 240 Stockton.	\$ 1,127.68	\$ 1,042.76
Gucci Store Subtotal				\$ 32,219.94	\$ 25,926.79
TOTAL				\$ 87,925.26	\$ 71,086.38



01/27/2012 10:43

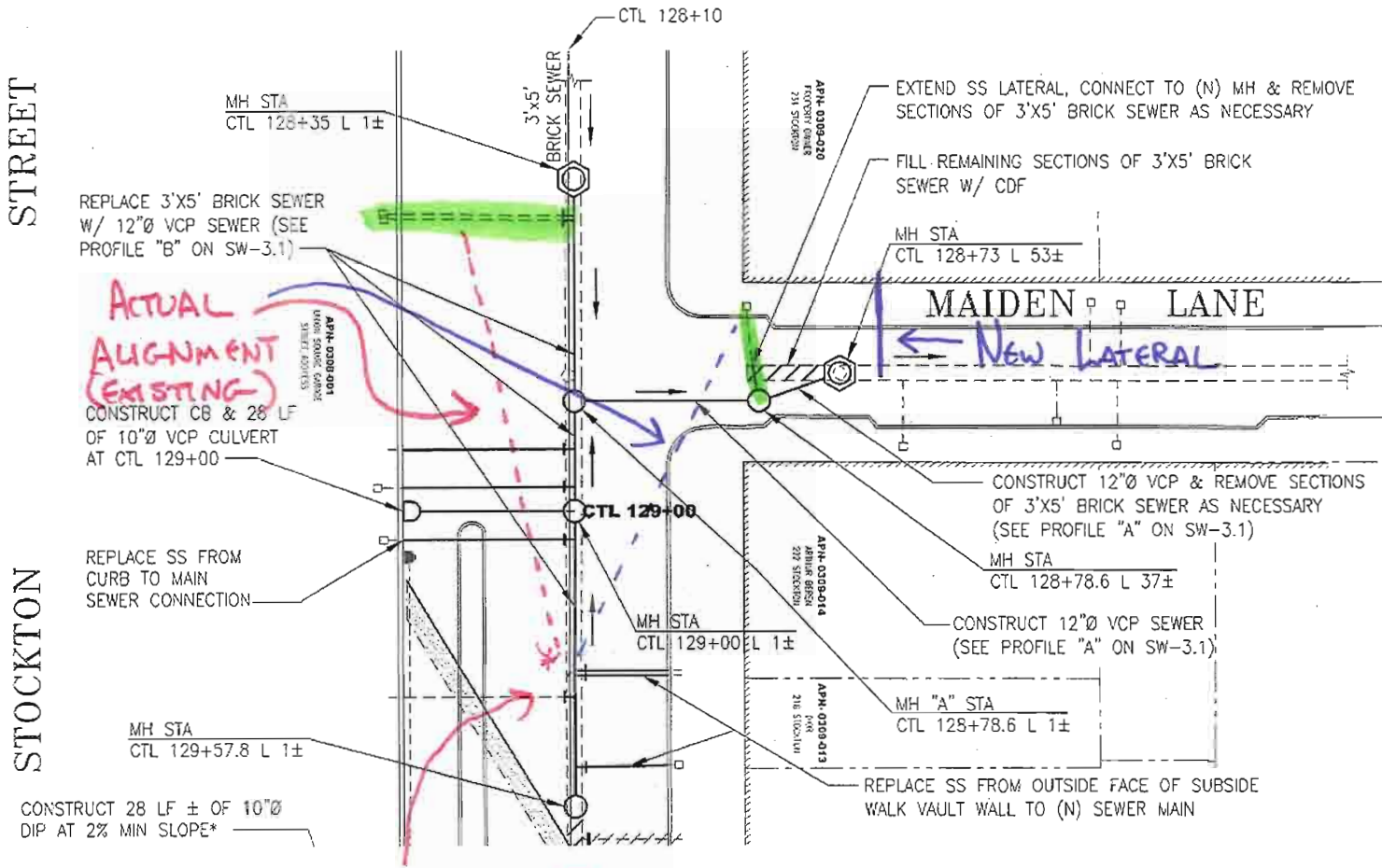
#1



01/27/2012 10:43

STREET

STOCKTON



* LATERAL TERMINUS INVERT TOO LOW FOR CONNECTION TO NEW MAIN

#3



11.15.2011 11:12

#4



11.15.2011 11:13

#5