

## Transmittal

CS Transmittal No. 2146

**From:** John Funghi  
 M544.1  
**Project No./Contract No.:**  
**Task No./Title:**  
**Project Phase:**  
**Subject:** Central Subway Mitigations Monitoring Reporting Program Quarterly Update-December 2012  
**Date:** January 9, 2013

Jeff Davis  
 Federal Transit Administration  
 201 Mission St. Suite 1650  
 San Francisco, CA 94105

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Reference:

Item No.	Copies	Description	Rev. No.	Date
1	1	Mitigation Monitoring and Reporting Program Update December, 2012	----	12/28/12

*If enclosures are not as noted, kindly notify us at once.*

**Remarks:** Enclosed is the latest quarterly MMRP Update. Please contact Lewis Ames if you have any questions or require additional information on 415-701-4226 or [lewis.ames@sfmta.com](mailto:lewis.ames@sfmta.com).

  
 John Funghi  
 Program Director

LA:sm

cc: David Kuehn, STV (w/attachments), [david.kuehn@stvinc.com](mailto:david.kuehn@stvinc.com), Bradley Lebovitz, STV, (w/attachments), [bradley.lebovitz@stvinc.com](mailto:bradley.lebovitz@stvinc.com), Eric Stassevitch, CSP, (w/attachments), [Eric.Stassevitch@sfmta.com](mailto:Eric.Stassevitch@sfmta.com) CS File No. M544.1.5.0970.a



**MEMORANDUM**

CS Memorandum No. 1327

**DATE:** January 4, 2013

**TO:** SFMTA Board of Directors  
Tom Nolan, Chairman  
Cheryl Brinkman, Vice-Chairman  
Leona Bridges, Director  
Malcolm Heinicke, Director  
Jerry Lee, Director  
Joel Ramos, Director  
Cristina Rubke, Director

**THROUGH:** Edward D. Reiskin  
Director of Transportation

**FROM:** John Funghi  
Program Director, Central Subway Project

**SUBJECT:** Central Subway Program – SEIS/SEIR MMRP Construction Phase  
Quarterly Update

The August 19, 2008 SFMTA Board Resolution 08-150 approving the Final Supplemental EIS/EIR adopted the Mitigation Monitoring and Reporting Program (MMRP). The MMRP requires the project to implement mitigations to the project's 68 identified impacts. The SEIS/SEIR grouped these impacts under 29 major environmental categories, e.g. Transit Operations, Traffic, Pedestrians, Historical Resources, Noise and Vibration, etc.

The SEIS/SEIR also requires the Central Subway team to update you, the FTA and the Planning Department quarterly on the mitigation measures implementation status as the program progresses. Attached is the latest quarterly update on the MMRP implementation under the 29 major environmental impact categories during the construction phase.

The 68 SEIS/SEIR mitigation measures are now incorporated in the final design contract specifications. The September 2012 update presented the mitigation for each impact established in the Central Subway drawings and contract technical specifications. Forty-eight of the 68 major environmental categories require "Monitoring of Construction" to confirm the mitigations are being implemented. For this quarterly report, only the tunnel and final utility relocation contracts required monitoring. The final utility relocation contract was completed in 2012. The current monitoring status for the tunnel contract is the primary new information in this report.

Changes in the table since the last update are highlighted in a bold font within the table.

**cc:** San Francisco Planning Department  
Federal Transit Administration  
CS File No. M544.1.5.0970.a



Report

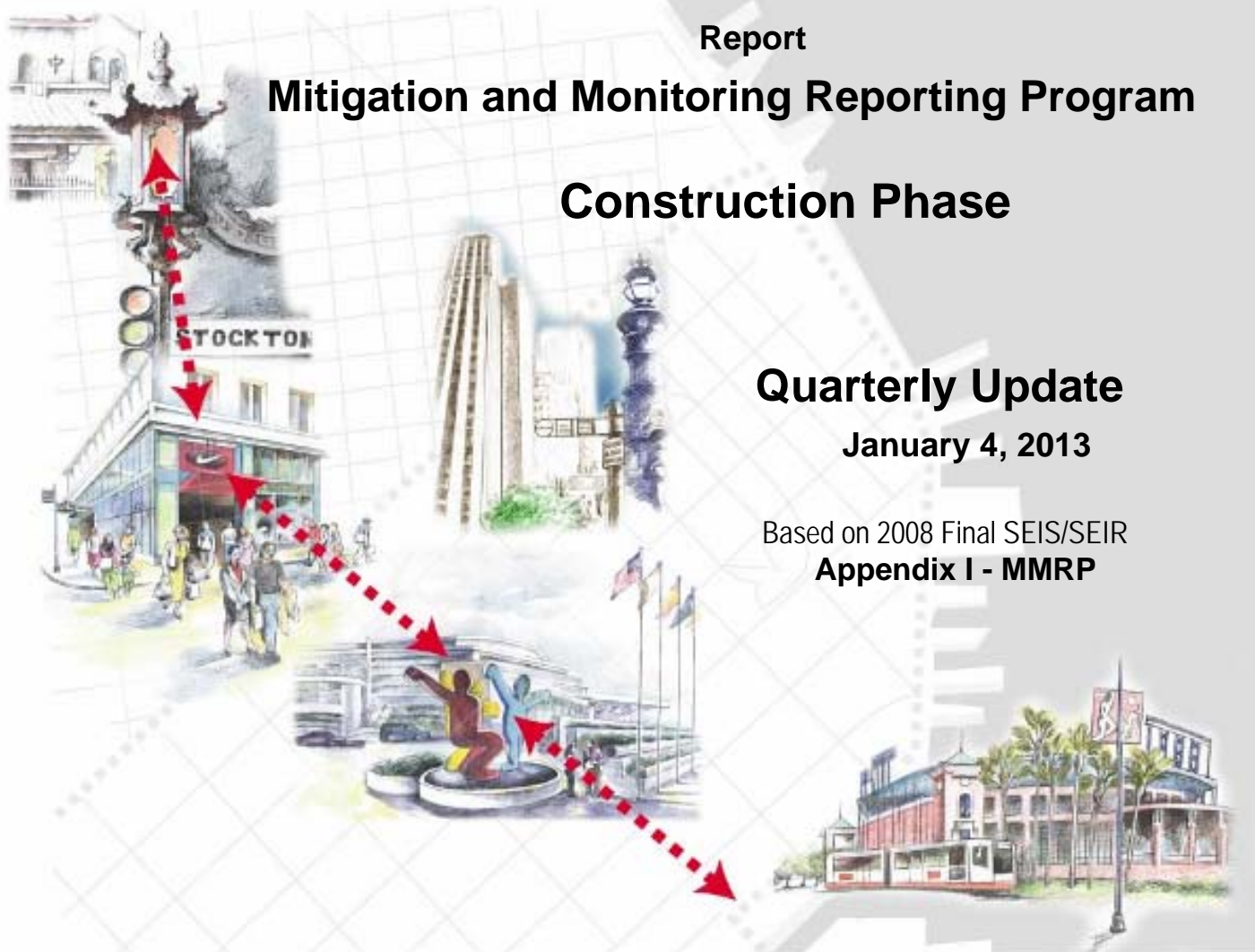
## Mitigation and Monitoring Reporting Program

### Construction Phase

Quarterly Update

January 4, 2013

Based on 2008 Final SEIS/SEIR  
Appendix I - MMRP



Prepared by:

**SFMTA**

CITY AND COUNTY OF SAN FRANCISCO  
MUNICIPAL TRANSPORTATION AGENCY  
821 Howard Street  
San Francisco, CA 94103

In association with:

**C S P** Central Subway Partnership  
creativity stewardship performance

# Report Construction Phase

## Mitigation and Monitoring Reporting Program Quarterly Update

Based on 2008 SEIS/SEIR – Appendix I MMRP

2012 4<sup>th</sup> Quarter Update

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Prepared by: Lewis Ames Date: 1-4-13

Lewis Ames]  
SFMTA Environmental Program Liaison

Reviewed by: [Signature] Date: 04 Jan 13

Eric Stassevitch  
Program Manager Project Services

Reviewed by: [Signature] Date: 1/4/13

Richard Redmond  
CSP Program Manager Project Construction

Approved by: [Signature] Date: 1-7-13

John Funghi  
SFMTA Program Director

**Central Subway Mitigation Monitoring Reporting Program**

**Construction Phase**  
2012 4<sup>th</sup> Quarter Update

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**Central Subway Mitigation Monitoring Reporting Program**

**Construction Phase**  
2012 4<sup>th</sup> Quarter Update

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# MITIGATION MONITORING AND REPORTING ACTION TABLE

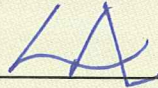
PROJECT NAME AND CASE NO.

Central Subway Project 96.28IE

Environmental Program Manager Contact Name and Phone:

Lewis Ames (415) 701-4226

EPM SIGNATURE AND DATE



SUBMITTAL DATE

1/04/13

Impact Category # of 29 Impact # out of 68	Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source
<b>1. OPERATION – TRANSIT (TST)</b>				
1.	TST -1	In 2030 passenger demand could slightly exceed the capacity of proposed light rail service and 9AX bus services during certain peak hours.	<b>IM TST-1a:</b> SFMTA will monitor transit ridership and increase the number, frequency, and/or size of trains and buses through modification of the operating plan as warranted to increase the capacity.	Monitor operations post construction.  To be implemented post-construction.  <b>No change since last update.</b>  Relevant Drawings: N/A Relevant Technical Specs: N/A
2.	TST -2	The Powell Street Station may experience capacity issues at the concourse level due to increased passenger activity at the northeast end of the station.	<b>IM TST-2a:</b> The SFMTA and BART will prepare and enter into a Station Improvement Coordination Plan for the Powell Street Station that will provide for, at a minimum, implementation of the allocation of cost for any station infrastructure improvements necessary to maintain pedestrian safety and a pedestrian level of service of D or better at the Powell Street Station as a result of the Central Subway Project.	Monitor passenger flow on Concourse level of station in BART shared-use area.  This applies to the Union Square/Market St Subway Station Work Package only.  <b>No change since last update.</b>  The Cooperative Agreement was executed on April 19, 2011. Cost and work associated with required station infrastructure improvements is addressed in an amendment to the Cooperative Agreement. The 1st amendment was approved and executed on July 12, 2012.  Relevant Drawings: N/A Relevant Technical Specs: N/A

**CENTRAL SUBWAY  
MITIGATION MONITORING AND REPORTING ACTION TABLE**  
2012 4<sup>th</sup> Quarter Update

Impact Category #	Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source	
Impact # out of 68					
<b>2. OPERATION – TRAFFIC (TRF)</b>					
3.	TRF -1	The Fourth and Harrison Street intersection would degrade to LOS F conditions during the p.m. peak hour due to the number of right turns from Fourth Street to Harrison Street.	<p><b>MM TRF-1a:</b> Improve conditions by adding, via striping changes, a shared through and right-turn lane from Fourth Street to Harrison Street. This migration measure would require parking removal on the east side of Fourth Street, from Harrison Street to a point about 200 feet to the north for lane transition purposes. Signal timing changes would also help improve the operating conditions by allocating the appropriate amount of green time to all approaches. These improvements are projected to return intersection operations to LOS B.</p>	<p>Check Final Traffic Engineering documents for compliance.</p>	<p>This applies to the Surface/Trackwork/Systems Work Package only.</p> <p><b>No change since last update.</b></p> <p>Incorporate additional shared thru and right turn lane from 4th street to Harrison Street.</p> <p>Relevant Drawings: TR-022, Final Traffic Striping; Fourth Street, Berry St. to Harrison St. Relevant Technical Specs: N/A</p>
4.	TRF -2	The portal at Fourth Street under 1-80 may restrict large truck movements onto Stillman Street.	<p><b>MM TRF-2a:</b> SFMTA will explore with the Transbay Joint Powers Authority, Caltrans, and Golden Gate Transit options, such as providing alternate truck routes, that will permit truck access to Stillman Street to reduce the impacts to a less-than-significant level.</p>	<p>Check Final Traffic Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels Contract and to the Surface/Trackwork/Systems Work Package -</p> <p>For the Tunnels Contract</p> <p>Specifications require all lanes of Stillman St to remain open at all times.</p> <p>Relevant Drawings: TR-020,021,025,026 Relevant Technical Specs: Spec 01 55 26 Article 3.01 Vehicular and Pedestrian Traffic Table 2 Tabulation of Traffic Lane Requirements</p> <p><b>Tunnel Construction Monitoring Status:</b> Underway and On Going</p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident</u></p> <p>For the Surface/Trackwork/Systems Work Package Truck access to Stillman Street will be accessible at all times.</p> <p>Relevant Drawings: N/A In-house implementation Relevant Technical Specs: N/A In-house implementation</p>



**CENTRAL SUBWAY  
MITIGATION MONITORING AND REPORTING ACTION TABLE**  
2012 4th Quarter Update

Impact Category # Impact # out of 68	Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source	
<b>3. OPERATION -FREIGHT AND LOADING (FRT)</b>					
5.	FRT-I	Provision of the light rail station platform on Fourth Street at Brannan Street, the surface alignment along Fourth Streets, and the location of the subway would displace some. loading zones between King and Harrison Streets.	<b>IM FRT-1a:</b> Areas for new, permanent, on-street loading zones may be identified along Fourth Street (between King and Bryant Streets) and/or appropriate side streets. Some of the new loading zones may need to displace existing parking spaces.	Check Final Traffic Engineering documents for compliance.	<p>This applies to the Surface/Trackwork/Systems Work Package only.</p> <p><b>No change since last update.</b></p> <p>Existing parking stalls along 4th Street between Bryant and King streets, will be all eliminated after the Surface/Trackwork/Systems Work Package. SFMTA will investigate all existing loading zones along 4th Street and will establish new loading zones on the nearby cross streets. Relevant Drawings: N/A In-house implementation Relevant Technical Specs: N/A In-house implementation</p>
6.	FRT-2	The portal at Fourth Street under 1-80 may restrict large truck movements onto Stillman Street.	<b>IM FRT-2a:</b> SFMTA will coordinate with the Transbay Joint Powers Authority and Golden Gate Transit to identify options, such as providing alternate truck routes that will permit truck access to Stillman Street.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	<p>This applies to the Tunnel and to the Systems/Track Construction Contracts</p> <p>For the Tunnel Contract - Specifications requires all lanes of Stillman St to remain open at all times. See MM TRF-2a.</p> <p>Relevant Drawings: TR-020,021,025,026 Relevant Technical Specs: Spec 01 55 26 Article 3.01 Vehicular and Pedestrian Traffic Table 2 Tabulation of Traffic Lane Requirements</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident</u></p> <p>For the Surface/Trackwork/Systems Work Package Truck access to Stillman Street will be accessible at all times.</p> <p>Relevant Drawings: N/A (In-house implementation) Relevant Technical Specs: N/A (In-house implementation)</p>
<b>4. OPERATION – PEDESTRIANS (PED)</b>					
7.	PED-I	Sidewalk widths on Geary Street would be reduced adjacent to the Union Square	<b>IM PED-1a:</b> During final design, consideration will be given to ensure that stairways and escalators would not compete with sidewalk space for pedestrians.	Check Final Engineering documents for compliance.	This applies to the Union Square/Market St Subway Station, to the Chinatown Subway Station, and to the Yerba Buena / Moscone Subway Station Construction Contracts.

**CENTRAL SUBWAY**  
**MITIGATION MONITORING AND REPORTING ACTION TABLE**  
 2012 4th Quarter Update

Impact Category #	Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source
Impact # out of 68				
	Station.			<p><b>No change since last update.</b></p> <p>For the Union Square/Market St Station Work Package -</p> <p>Northern Entrance (Union Square): Elevators, escalator and stair are placed so as not to compete with public sidewalk space for pedestrians. Elevator vestibule waiting space is provided off of the public sidewalk / out of the pedestrian circulation space. Additionally, the width of the public sidewalk in the area of the Union Square entrance is increased from 10 feet to 17 feet. (Ref. AR-840, AR-851, AR-861, RP-108)</p> <p>Ellis Street Entrance: This entrance is to be reconstructed entirely within the footprint of the existing MUNI/BART Powell Station entrance adjacent to the Apple Store.</p> <p>Similarly, the existing elevator on Market Street provides access to UMS. (Ref. AR-050, AR-893, AR-894)</p> <p>Two additional emergency egress stairs reach the surface through hatches located in the public sidewalk on O'Farrell Street. In the normal closed position, the hatches provide a non-slip walkable surface that is flush with the sidewalk. (Ref. AR-050, AR-731, RP-111.)</p> <p>Relevant Drawings: AR-050, AR-840, AR-851, AR-861, AR-893, AR-894, RP-108, RP-111</p> <p>Relevant Technical Specs: N/A</p> <p>For the Chinatown Station Work Package -</p> <p>All the stairs, escalators, and elevators used for the normal operation of the station are located within the headhouse property, and do not compete with sidewalk circulation. Two of the emergency exit stairs (Stairs 4 and 7) terminate at hatches at the sidewalk. The exit hatches are flush with the sidewalk, with a non-slip surface, and can be walked on except during emergencies when the station is being evacuated. The exit hatch for stair 4, along Stockton St., is on a bulb-out, and does not compete with the sidewalk clearance even when open.</p> <p>Relevant Drawings: AR-100, AR-114, AR-22, AR-731</p> <p>Relevant Technical Specs: N/A</p> <p>For the Yerba Buena / Moscone Station Work Package -</p> <p>All the stairs, escalators, and elevators used for the normal operation of the station are located within the headhouse property, and do not compete with sidewalk circulation. Emergency stairs are placed to the inside of sidewalk right-of-way.</p>

**CENTRAL SUBWAY**  
**MITIGATION MONITORING AND REPORTING ACTION TABLE**  
2012 4th Quarter Update

Impact Category #		Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source
Impact # out of 68					
					Relevant Drawings: AR-100 and AR-111 Relevant Technical Specs: N/A
8.	PED-2		<b>IM PED-1b:</b> Elevator shafts should be located so as not to block the line of sight of motorists exiting the garage to maximize pedestrian safety.	Check Final Engineering documents for compliance.	This applies to the Union Square/Market St Subway Station Work Package  <b>No change since last update.</b>  Elevator shafts at the Union Square entrance are set back from the south edge of the planters and terraces adjacent to the sidewalk. The distance from the mid-block garage vehicle entrance to the Union Square entrance is approximately 70 feet. (Ref. AR-840, AR-862) Relevant Drawings: AR-840, AR-862 Relevant Technical Specs: N/A
9.	PED-3		<b>IM PED-1c:</b> During final design, elevators, escalators, and stairways should be kept as close as possible to the primary circulation path to facilitate disabled access.	Check Final Engineering documents for compliance.	This applies to the Union Square/Market St Subway Station, to the Chinatown Subway Station, and to the Yerba Buena / Moscone Subway Station Work Packages  <b>No change since last update.</b>  For the Union Square/Market St Station Work Package - All elevators, escalators, and stairways are located within the primary circulation path to facilitate disabled access. Relevant Drawings: AR-050 & AR-051 Relevant Technical Specs: N/A  For the Chinatown Station Work Package - At the street entrance, the stairs, escalators, and elevators are accessed from the same entrance lobby. All three vertical circulation elements land at the ticketing hall, where the elevators open directly in front of the ticket vending machines. Entering past the single array of faregates (including one accessible faregate) , passengers face escalators to the left, a pair of elevators directly to the front, and stairs to the right. All lead to the platform. The elevators land at the center of the platform. Relevant Drawings: AR-114, AR-124, AR-154, AR-152 Relevant Technical Specs: N/A  For the Yerba Buena / Moscone Station Work Package -

**CENTRAL SUBWAY**  
**MITIGATION MONITORING AND REPORTING ACTION TABLE**  
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Impact Category # Impact # out of 68	Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source	
				<p>At the street entrance, the stairs, escalators, and elevators are accessed from the same entrance lobby. All three vertical circulation elements land at the ticketing hall, where the elevators open directly in front of the ticket vending machines. Entering past the single array of faregates including one accessible faregate, passengers face stairs, escalators and a pair of elevators on the left. All vertical circulation elements lead to the platform. The elevators land at the center of the platform.</p> <p>Relevant Drawings: AR-021  Relevant Technical Specs: N/A</p>	
<b>5. OPERATION – BICYCLES (BIC)</b>					
10.	BIC-I	<p>Diversion of traffic from Fourth Street, resulting from increased congestion associated with the project implementation could permanently impact the proposed bicycle lanes on Second and Fifth Streets.</p>	<p><b>IM BIC-1a:</b> Implementation of the Second and Fifth Street bicycle projects are recommended to facilitate bicycle travel in the South of Market area.</p>	<p>Monitor progress on these independent projects.</p>	<p>This applies to the Tunnels Contract, to the Yerba Buena / Moscone Subway Station, and to the Station/Trackwork/Systems Work Package.</p> <p><b>No change since last update.</b></p> <p>For the Tunnels Contract</p> <p>The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: N/A</p> <p>For the Yerba Buena / Moscone Station Work Package</p> <p>The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: N/A</p>

**CENTRAL SUBWAY**  
**MITIGATION MONITORING AND REPORTING ACTION TABLE**  
2012 4th Quarter Update

Impact Category # Impact # out of 68	Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source
				<p>For the Station/Trackwork/Systems Contract</p> <p>The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p>
<b>6. OPERATION - EMERGENCY VEHICLE ACCESS (EMER)</b>				
11.	EMER-I	<p>The introduction of a double-track median in the middle of Fourth Street would require emergency vehicles from Fire Station #8 (36 Bluxome Street) to cross the entire trackway to reach the intersection of Fourth and Brannan Streets.</p>	<p><b>IM EMER-1a:</b> SFDPT will be upgrading traffic signals with emergency vehicle preemption equipment in order to minimize the emergency response time and to improve the signal operation at several intersections near fire stations along the Corridor.</p>	<p><b>Monitor during construction.</b></p> <p>This applies to the Surface/Trackwork/SystemsWork Package only.</p> <p><b>No change since last update.</b></p> <p>Design:  Traffic Signal upgrade along 4th Street between Harrison and King Streets will include emergency service vehicle pre-emption at the signalized intersections. To be implemented by SFMTA staff at the completion of Traffic Signal installation.</p> <p>Relevant Drawings: ET-001 through ET-154  Relevant Technical Specs: 34 41 13 traffic Signals</p> <p><b>Construction Monitoring Status: N/A until systems contract construction.</b></p>
<b>7. OPERATION - SOCIOECONOMIC - POPULATION AND HOUSING (PH)</b>				
12.	PH-I	<p>Acquisition of one parcel for the Chinatown Station at 933-949 Stockton would displace of 8 small businesses and 17 low income residential units.</p>	<p><b>MM PH-1a:</b> Redevelopment of the Chinatown Station site will incorporate affordable housing and ground floor retail where possible.</p>	<p>Redevelopment plans for the station areas are in the early stages of discussion by SFMTA Real Estate.</p> <p>This applies to the Chinatown Subway Station Construction Work Package only.</p> <p><b>SFMTA Real Estate is exploring Transit Oriented Design in this area.</b></p> <p>Relevant Drawings: Drawings to be developed at a later date.  Relevant Technical Specs: Specifications to be developed at a later date.</p>

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MITIGATION MONITORING AND REPORTING ACTION TABLE**  
2012 4th Quarter Update

Impact Category #		Impact Summary	Mitigation Measures (MM) or Improvement Measures (1M)	Monitoring and Reporting Actions	Monitoring Status and Information Source
Impact # out of 68					
13.	PH-2		MM PH-1b: State and federal relocation regulations will be implemented.	Redevelopment plans for the station areas are in the early stages of discussion by SFMTA Real Estate.	<p>This applies to the Chinatown Subway Station Construction Work Package only.</p> <p><b>No change since last update.</b></p> <p>A Relocation Impact and Last Resort Housing Study has been completed and approved by the SFMTA Board and SF Board of Supervisors in accordance with Federal and State requirements. The SFMTA has relocated all affected residential tenants and all affected commercial tenants.</p> <p>Relevant Drawings: N/A Relevant Technical Specs: N/A</p>
<b>8. OPERATION - COMMUNITY FACILITIES (CF)</b>					
14.	CF-I	The placement of station entries and elevators in Union Square Plaza would permanently remove 1,690 square feet of open space for transportation purposes in Union Square Park.	IM CF-1a: During final design, minimize the footprint of station entrances to the subway in Union Square plaza would be designed and located in such a manner as to minimize the station entrance footprint and minimize disruption to park users.	Check Final Engineering documents for compliance.	<p>This applies to the Union Square/Market St Subway Station Construction Work Package only.</p> <p><b>No change since last update.</b></p> <p>The design of the station entrance at Union Square minimizes the surface level footprint of the station entrance while accommodating all functions requiring a street level presence. These functions include the station vertical circulation (with off-sidewalk queuing space) as well as station-related systems and emergency response infrastructure. The entrance incorporates an accessible roof terrace that is integrated into the existing pedestrian circulation to minimize disruption to park users. The design has been vetted by the Arts Commission, Parks and Rec Dept, SFMTA Accessibility, the Mayor's Office of Disability, and the Union Square Business Improvement District. The design minimizes the footprint, thereby minimizing the impact to the Union Square Park Users.</p> <p>Relevant Drawings: AR-840, AR-851, AR-861, AR-862 Relevant Technical Specs: N/A</p>
15.	CF-2		IM CF-1b: Design subway entrances so they are visually integrated with the existing park design.	Coordinate with Recreation and Parks Department Planners to review plans.	<p>This applies to the Union Square/Market St Station Work Package only.</p> <p>Final Design Mitigation Task Closed.</p>

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				<p><b>No change since last update.</b></p> <p>In addition to the compact footprint, the Union Square station entrance is designed as a low structure to set into and underneath the stepping plaza terraces. The tallest features of the entrance design - the elevator hoistways - have been held to the minimum height accommodating their function. The design has been vetted by the Arts Commission, Parks and Rec Dept, SFMTA Accessibility, the Mayor's Office of Disability, and the Union Square Business Improvement District, and visually integrates with the existing Union Square Park.</p> <p>Relevant Drawings: AR-861, AR-862, AR-864, AR-866, LA-401 Relevant Technical Specs: N/A</p>
<b>9. OPERATION - HISTORIC ARCHITECTURAL RESOURCE IMPACTS (HARC)</b>				
16.	HARC-I	<p><b>MM HARC-1a:</b> Partial preservation of 933-949 Stockton Street or incorporation of elements of the building into the design of the new station building; salvage significant architectural features from the building for conservation into a historical display or exhibit in the new Chinatown station or in museums; and/or develop a permanent interpretive display for public use on the T-Third line cars or station walls. Conform to MOA between SHPO, FTA, and SFMTA.</p>	<p>Check Final Engineering documents for compliance.</p>	<p>This applies to the Chinatown Subway Station Work Package only <b>No change since last update.</b></p> <p>A Historic American Buildings Survey (HABS) Recordation has been performed and submitted Sept. 2011. Carey and Company, the firm performing the HABS, has stated, via letter, that there are no architectural elements of the existing building that should be salvaged and/or installed on the new station.</p> <p>Updated 09/17/12: Location of Historical Display Cases (NIC) are identified on Finish Plan - if required and with clearer scope requirements. Future installation will be provided by Exhibition Designer (Other) through SFMTA.</p> <p>Relevant Drawings: 1254R AR-254, Finish Plan Concourse Level - 4 Sheet # 432; CL-19920 Relevant Technical Specs: N/A</p>
17.	HARC 1 (cont)	<p>Demolition of the historic building at 933-949 Stockton Street, which is a contributor to a NRHP eligible district, would create a visual break in the cohesive grouping of contextually-related buildings within the</p>	<p><b>MM HARC-1b:</b> The final design of the Chinatown Station will be reviewed by the Environmental Review Officer, the City Preservation Coordinator, and a historic architect hired by MTA for compliance with the Secretary of Interior's standards based on their compatibility with the character-defining features of the district.</p>	<p>Check Final Engineering documents for compliance.</p> <p>This applies to the Chinatown Subway Station Construction Work Package only. <b>No change since last update.</b></p> <p>The historic architecture firm Carey and Co. reviewed the drawings for compliance with the Secretary of Interior's standards based on their compatibility with the character-defining features of the district. See Carey &amp; Co. Letter dated April 4, 2012. A review has also been performed concurrently by the Environmental Review Officer and the City Preservation</p>

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		block.			<p>Coordinator.</p> <p>The San Francisco Planning Department performed a "Historic Resource Evaluation Response" (HRER) dated 04/26/12 which states that the new station construction with design adjustments noted in HRER attachments is compliant with the Secretary of Interior's Standards and meets the requirements of this Mitigation Measure. (updated 09/17/12)</p> <p>Relevant Drawings: AR-104 Rev. 1 (CL-19900) - Roof Plan  AR-114 Rev. 1 (CL-19901) - Floor Plan Surface Level - 4;  AR-300 Rev. 1 (CL-19927) - Exterior Elevations;  AR-302 Rev. 1 (CL-19929) - Glass Enclosure Elevations and Sections;  AR-303 Rev. 1 (CL19930) - Glass Enclosure Elevations and Sections;</p> <p>Update 09/17/12: Stockton Street Elevation to have same glass facade rhythm from Washington Street with "punched" window openings.</p> <p>Update 09/17/12: Note that Contract 1254 has been replaced by Contract 1254R.  Relevant Technical Specs: Spec. 12 10 10 (1254 Addendum #2)  Washington Street Fascia Art Work.</p>
18.	HARC 1 (cont)	Same as HARC 1 above.	<p><b>MM HARC-1c:</b> Prior to demolition of the 933-949 Stockton Street building a Historic American Buildings Survey/Historic American engineering Record documentation will be completed.</p>	<p>Check Final Engineering documents for compliance.</p>	<p>This applies to the Chinatown Subway Station Construction Work Package only  <b>No change since last update.</b></p> <p>Final Design Mitigation Task Closed</p> <p>The historic architecture firm of Carey and Co. has performed this HABS documentation (Sept. 2011); and copies of the HABS Recordation report has been submitted to SHPO, SF Planning, SF History Center &amp; Bancroft Library at University of California at Berkeley. (updated: 09/17/2012)  Relevant Drawings: Structural Demolition Drawings: (updated: 09/17/2012)</p> <p>SD-200 (CL-19534), see Demolition Note #12;  SD-201 (CL-19535), see Demolition Note #1;  SD-202 (CL-19536), see Demolition Note #1;  SD-203 (CL-19537), see Demolition Note #1;  SD-204 (CL-19538), see Demolition Note #1;</p>



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					SD-205 (CL-19539) Elevations Relevant Technical Specs: Spec. 02 41 16 - Structural Demolition, para. 1.02 A Historic Items (09/17/12)
19.	HARC 2	Station entrances located in Union Square would permanently alter the recently redesigned plaza and parking garage.	<b>IM HARC-2a:</b> Less-than-significant visual impacts at Union Square Station will be minimized through the use of design and architectural materials that would be compatible with the surrounding structures and landscape. The final design for the station will be subject to review by the Recreation and Parks Department.	Check Final Engineering documents for compliance. Coordinate with Recreation and Parks Department.	<p>This applies to the Union Square/Market St Subway Station Construction Work Package only</p> <p><b>No change since last update.</b></p> <p>Final Design Mitigation Task Closed.</p> <p>The area of terraced lawns and seating west of the new station entrance is to be restored to match the existing terrace design and finishes. The new entrance fascia is clad in precast stone panels matching the existing adjacent precast planters. Similarly, terraces and other hardscape features are detailed and specified to match existing finishes and detailing. New finishes are limited to minimal glass guardrails at the terrace level parapet, and glass and steel elevator hoistway enclosure and doors. Landscaping at the Union Square entrance includes lawn terraces, trees, and shrubs in planters, matching the design of the existing south edge of the park.</p> <p>The design was vetted by the Arts Commission, Parks and Rec Dept, the Mayors Office of Disability, and the Union Square Business Improvement District; architectural materials used are compatible with the surrounding structures and landscape of Union Square Park.</p> <p>Relevant Drawings: AR-861, AR-862, AR-864, AR-866, LA-401 Relevant Technical Specs: 03 45 00 Precast Architectural Concrete; 09 75 00 Stone Facing.</p>
<b>10. CONSTRUCTION - VISUAL AND AESTHETIC RESOURCES (CNVAES)</b>					
20.	VAES-I	Station entrances for the Union Square Station would be visible in the plaza from Stockton and	<b>MM VAES-1a:</b> Station architectural treatment for the exterior façade in the visually sensitive Union Square Park would be developed in consultation with the Planning, Recreation and Parks Departments, and the	Check Final Engineering documents for compliance. Coordinate with city agencies and	<p>This applies to the Union Square/Market St Subway Station Construction Work Package only,</p> <p>Final Design Mitigation Task Closed.</p>

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		Geary Streets.	Union Square business associations.	community/ business groups during design development.	<p><b>No change since last update.</b></p> <p>The design has been vetted by the Arts Commission, Parks and Rec Dept., the Mayor's Office of Disability, and the Union Square Business Improvement District; the station architectural treatment for the exterior façade is compatible with the surrounding structures and landscape of Union Square Park.</p> <p>Relevant Drawings: AR-851, AR-862, AR-863  Relevant Technical Specs: 03 45 00 Precast Architectural Concrete; 09 75 00 Stone Facing.</p>
21.	VAES-I (cont)	The demolition of an existing building to accommodate the Chinatown Station and the construction of a new station entrance and transit – oriented development in the future would visually change the street facade along Stockton Street.	<p><b>MM VAES-2a:</b> Exterior treatment of the Chinatown Station and vent shaft would be developed in consultation with the Planning Department, Architectural historians, the City Historic Preservation Coordinator, and the Chinatown community during preliminary and final design.</p>	<p>Exterior treatment of the Chinatown Station and vent shaft would be developed in consultation with the Planning Department, Architectural historians, the City Historic Preservation Coordinator, and the Chinatown community during preliminary and final design.</p>	<p>This applies to the Chinatown Subway Station Construction Work Package only.</p> <p>Final Design Mitigation Task Closed</p> <p><b>No change since last update.</b></p> <p>The 90% Design Documents were provided to the Planning Depart, which includes the Historic Preservation Coordinator, for review. They had no issues with the exterior treatment of the vent shaft. Their comments on the exterior treatment of the station were incorporated into the final contract documents. The historical architectural firm of Carey and Co. provided findings. These findings were not of any significance and didn't require addressing in the final contract documents. 90% Design Documents were provided to the Chinatown Community representatives (CCDC) who provided no comments that required changes to the final contract documents. Community outreach was also performed by presenting to the Citizens Advisory Committee who also had no comments that required addressing in the final contract documents.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: N/A</p>

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<b>11. OPERATION - NOISE AND VIBRATION (NV)</b>					
22.	NV-1	The FTA vibration criteria of 72 V dB would be exceeded at one residential building at 570 Fourth Street at Freelon Alley.	MM NV-1a: Vibration propagation testing will be conducted at this location during final engineering to determine the predicted impacts and finalize the mitigation measures. MTA will implement high resilience (soft) direct fixation fasteners at this location for embedded track. Implementation of this measure would reduce the vibration impacts to a less-than-significant level.	Testing pre-construction.	<p>This applies to the Stations/Trackwork/ Systems Work Package only</p> <p><b>No change since last update.</b></p> <p>Vibration testing at 570 Fourth Street was completed June 2012.</p> <p>Relevant Drawings: TC-115, TC-212  Relevant Technical Specs: 34 11 10 Basic Trackwork materials and Methods. Spec Sections to be added when design is finished.</p>
23.	NV-2	Noise impacts could occur from operation of Emergency Vent Shafts and Traction Power Substations (TPSS).	IM NV-2a: Noise control improvement measures used to meet the San Francisco Noise Ordinance will be determined during final design, but could include enclosing TPSS in masonry structures with sound-rated doors or gates and providing sound attenuation on all emergency ventilation openings of any ancillary facility buildings.	<p>Design has already been modified to place TPSS substations underground to provide sound attenuation.</p> <p>Check Final Engineering documents for compliance related to Emergency Vent Shafts.</p>	<p>This applies to the Union Square/Market St Station, the Chinatown Station, and to Yerba Buena / Moscone Station Work Packages.</p> <p><b>No change since last update.</b></p> <p>For the Union Square/Market St Station Work Package  Final Design Mitigation Task Closed</p> <p>All emergency ventilation openings will have sound attenuators provided between the fans and the opening. There is no TPSS substation located at this station.  Relevant Drawings: MV142, MV143, MV153, MV803  Relevant Technical Specs: 23 88 20 Sound Attenuators for Station and Tunnel Ventilation</p> <p>For the Chinatown Station Work Package  Final Design Mitigation Task Closed</p> <p>All emergency ventilation openings will have sound attenuators provided between the fans and the opening. TPSS substation is located on the sub-surface platform level and will not be heard.  Relevant Drawings: MV141, MV143, MV154, MV803, AR-024  Relevant Technical Specs: 23 88 20 Sound Attenuators for Station and Tunnel Ventilation</p> <p>For the Yerba Buena / Moscone Station Work Package  Final Design Mitigation Task Closed</p>

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				All emergency ventilation openings will have sound attenuators provided between the fans and the opening. TPSS substation is located sub-surface on the under-platform level and will not be heard. Relevant Drawings: MV121, MV122, MV123, MV803, AR-053 Relevant Technical Specs: 23 88 20 Sound Attenuators for Station and Tunnel Ventilation.
<b>12. CONSTRUCTION – TRANSIT (CNTST)</b>				
24.	CNTST-I	Temporary reduction in traffic lanes on Fourth and Stockton Streets during construction would disrupt transit operations. The rerouting of the 30-Stockton and the 45-Union lines will be required.	IM CNTST-1a: SFDPT would develop and implement detour routes for non-transit traffic to minimize disruption to transit routes.  Check Final Engineering documents for compliance.  Monitor during construction.	This applies to all of the Construction Contracts.  For the Utilities Relocation #2 Contract Alternate routes for non-transit traffic are provided in plans and are being implemented during construction. Relevant Drawings: TR-009 and TR010 Relevant Technical Specs: 01 55 26 Traffic Regulations  For the Tunnels Contract Alternate routes for non-transit traffic are provided in plans. Relevant Drawings: TR-022,023,024 AND 025 Relevant Technical Specs: 01 55 26 Traffic Control  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u>  For the Union Square/Market St Station Specifications require the contractor to submit a Traffic Control Plan (TCP) for approval. This TCP will include detour routes for non-transit traffic to minimize the disruption to transit routes. Relevant Drawings: TR-022 through TR-023 Relevant Technical Specs: 01 55 26 Traffic Regulations  For the Chinatown Station Work Package Specifications require the contractor to submit a Traffic Control Plan (TCP) for approval. This TCP will include detour routes for non-transit traffic to minimize the disruption to transit routes. Relevant Drawings: TR-004

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					<p>Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Work Package Specifications require the contractor to submit a Traffic Control Plan (TCP) for approval. This TCP will include detour routes for non-transit traffic to minimize the disruption to transit routes.  Relevant Drawings: TR-013 through TR-015  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Systems/Trackwork Work Package Specifications require the contractor to submit a Traffic Control Plan (TCP) for approval. This TCP will include detour routes for non-transit traffic to minimize the disruption to transit routes.  Relevant Drawings: TR-013 through TR-020  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
25.	CNTST-1 (cont)	Same as CNTST-1 above.	<p><b>IM CNTST-1b:</b> Overhead wires for the 30-Stockton and the 45-Union/Stockton lines will be temporarily relocated or reconstructed to alternative routes where feasible or motor coaches would be temporarily substituted on alternative routes.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Utilities Relocation #2, to the Union Square/Market St Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Chinatown Subway Station Construction Work Packages.</p> <p><b>No change since last update.</b></p> <p>For the Utilities Relocation #2 Contract – Contract closed Dec. 2012. New overhead lines to detour 30 and 45 from Stockton to Sutter, Mason and Fifth Streets have been installed and the bus detour is in place using these lines.  Relevant Drawings: 0V-180 through OV-189  Relevant Technical Specs: Division 34</p> <p>For the Union Square/Market St Station Work Package</p> <p>Final Design Closed  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p> <p>The overhead wires have been relocated by the Utility Contract 2 and are available for use for the Union/Square/Market St Station project.</p> <p>For the Chinatown Station Work Package – Final Design Closed  The overhead wires have been relocated by the Utility Contract 2 and are</p>

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					<p>available for use for the Chinatown Station project. Relevant Drawings: N/A Relevant Technical Specs: N/A</p> <p>For the Yerba Buena / Moscone Station Work Package The overhead wires have been relocated by the Utility Contract 2 and are available for use for the Yerba Buena / Moscone project. Relevant Drawings: N/A Relevant Technical Specs: N/A</p> <p><b>Construction Monitoring Status: Completed.</b></p>
26.	CNTST-2	Excavation of the construction shaft under the 1-80 freeway between Bryant and Harrison Streets would also impact Golden Gate Transit bus operations.	<b>IM CNTST-2a:</b> SFMTA would coordinate with Transbay Joint Powers Authority Golden Gate Bridge, Highway, and Transit District to minimize construction impacts on Golden Gate Transit. SFMTA would stage excavation shaft construction and utility relocation to maintain access to the bus storage facility by Golden Gate buses and work with GGBHTD to develop bus detour routing plans for continued access. Access to the construction shaft would be scheduled to avoid conflict with the active bus periods.	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels Construction Contract only.</p> <p>Access to proposed GGBHTD bus storage is to Perry Street from Fourth St. Specification requirement regarding Perry Street: "Maintain the access on both Perry Street and Stillman Street at all times. Any scheduled closure of these two streets must be approved by the City, and Contractor shall notify the residents about the schedule and duration of the closure." Relevant Drawings: TR-020,021,025,026 Relevant Technical Specs: Spec 01 55 26 Article 3.02 Traffic Control and Construction Phasing <b>Tunnel Construction Monitoring Status: <u>Underway and On Going</u></b></p> <p><b>Monitoring source: <u>Contractor submittals and IDRs received by Resident Engineer</u></b></p>
27.	CNTST-3	<p>Temporary disruption of BART service could occur during construction.</p> <p>The BART entry at One Stockton Street would need to be closed temporarily during construction.</p>	<b>IM CNTST-3a:</b> SFMTA and BART will prepare and enter into a Station Improvement Coordination Plan to include construction management procedures and processes to address any and all construction and operational impacts resulting from the tunnel boring. SFMTA will also coordinate with BART to develop bus bridges, if needed, public outreach, and other programs to minimize impacts to transit riders during construction.	<p>SFMTA monitoring and report to BART</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels and to the Union Square/Market St Subway Station Construction Work Packages</p> <p>For the Tunnels Contract</p> <p>Memorandum of Agreement signed by SFMTA and BART in February 2011 establishes an Independent Review Panel to assess TBM tunneling settlement control performance. Other elements of strategy for protection of BART facilities includes extensive surface settlement instrumentation and required survey and installation real time deformation instrumentation inside of BART tunnels. Relevant Drawings: BP-122,123,124 and BP-313,316 Relevant Technical Specs: 01 76 29 Protection of Existing Property 31 09 13 Geotechnical Instrumentation and Monitoring</p>

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				31 09 15 Structural Instrumentation and Monitoring 31 43 14 Compensation Grouting  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> Instrumentation Data Report  For the Union Square/Market St Station Work Package The Cooperative Agreement was executed on April 19, 2011. Cost and work associated with required station infrastructure improvements is addressed in an amendment to the Cooperative Agreement. The 1st amendment was approved and executed on July 12, 2012. Relevant Drawings: N/A Relevant Technical Specs: N/A
<b>13. CONSTRUCTION – TRAFFIC (CNTRF)</b>				
28.	CNTRF-I	Temporary reduction in traffic lanes on Fourth and Stockton Streets and the subway crossing of Market Street would disrupt traffic.	<b>IM CNTRF-1a:</b> SFMTA has identified potential traffic detours. Prior to final design, the SFMTA would select the most appropriate detour routes and develop temporary transportation system management measures along these routes, e.g., additions of turn lanes at key intersections, conversion of parking lanes into peak period travel lanes, etc. Detour routes would be advertised prior to construction in the appropriate media. When detours are initially implemented, traffic control police would monitor critical locations along the detours to promote uncongested traffic flow. All traffic detour measures would be implemented in coordination with other concurrent construction projects.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>  This applies to all of the Construction Contracts  For the Utilities Relocation #2 Contract Closed Dec. 2012 Alternate routes for non-transit traffic are provided in plans and construction is completed. Relevant Drawings: TR-009 and TR010 Relevant Technical Specs: 01 55 26 Traffic Regulations  For the Tunnels Contract  Alternate routes for non-transit traffic are provided in plans. Relevant Drawings: TR-022, 023, 024 and 025 Relevant Technical Specs: 01 55 26 Traffic Control  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u>  For the Union Square/Market St Station Work Package  Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. The SFMTA Central Subway Outreach Team will advertise these detours in the media prior to construction.

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				<p>The Central Subway retained two Traffic Control Officers to monitor detours and promote uncongested traffic flow.  Relevant Drawings: TR-022 through TR-023  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package</p> <p>Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. The SFMTA Central Subway Outreach Team will advertise these detours in the media prior to construction.  The Central Subway retained two Traffic Control Officers to monitor detours and promote uncongested traffic flow.  Relevant Drawings: TR-004  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package</p> <p>Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. The SFMTA Central Subway Outreach Team will advertise these detours in the media prior to construction.  The Central Subway retained two Traffic Control Officers to monitor detours and promote uncongested traffic flow.  Relevant Drawings: TR-013 through TR-015  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. The SFMTA Central Subway Outreach Team will advertise these detours in the media prior to construction.  The Central Subway retained two Traffic Control Officers to monitor detours and promote uncongested traffic flow.</p> <p>Relevant Drawings: TR-013 through TR-020  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
<b>14. CONSTRUCTION - FREIGHT AND LOADING (CNFRT)</b>				



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29.	CNFRT-I  During construction, temporary disruption to truck traffic flow and removal of on-street loading zones adjacent to construction work areas.	<b>IM CNFRT-1a:</b> To alleviate some of the congestion that would result adjacent to construction of the light rail line, the SFDPT has identified potential traffic detours.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract Detour routes for transit and non-transit traffic are provided in plans and specifications. Relevant Drawings: TR-009 and TR010 Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Tunnels Contract</p> <p>Final Design Mitigation Task Closed</p> <p>Detour routes for transit and non-transit traffic are provided in plans and specifications. Relevant Drawings: TR-022, 023, 024 and 025 Relevant Technical Specs: 01 55 26 Traffic Control</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer .</u></p> <p>For the Union Square/Market St Station Work Package Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. Relevant Drawings: TR-022 through TR-023 Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. Relevant Drawings: TR-004 Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. Relevant Drawings: TR-013 through TR-015 Relevant Technical Specs: 01 55 26 Traffic Regulations</p>

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				For the Surface/Trackwork/Systems Work Package Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. Relevant Drawings: TR-013 through TR-020 Relevant Technical Specs: 01 55 26 Traffic Regulations
30.	CNFRT-I (cont)	Same as CNFRT-I Impact Summary Above.  <b>MM CNFRT-1b:</b> A portion of the curb parking lanes remaining open in the construction area, or just upstream or downstream of the construction area, may be converted to short-term loading zones to enable truck loading and unloading and delivery of goods to nearby businesses.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	This applies to all of the Construction Contracts  For the Utilities Relocation #2 Contract SFMTA-SSD (Traffic Engineer) will coordinate with the Contractor regarding the use of existing parking spaces upstream and downstream of the construction zone. SFMTA will implement the time limits of these zones during construction. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations  For the Tunnels Contract  SFMTA-SSD (Traffic Engineer) will coordinate with the Contractor regarding the use of existing parking spaces upstream and downstream of the construction zone. SFMTA will implement the time limits of these zones during construction.  Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Control  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u>  For the Union Square/Market St Station Work Package Specifications require the contractor to coordinate freight loading and unloading with impacted business owners to develop short-term loading zones. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations  For the Chinatown Station Work Package Specifications require the contractor to coordinate freight loading and

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					<p>unloading with impacted business owners to develop short-term loading zones  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package  Specifications require the contractor to coordinate freight loading and unloading with impacted business owners to develop short-term loading zones.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package  Specifications require the contractor to coordinate freight loading and unloading with impacted business owners to develop short-term loading zones.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
31.	CNFRT-I (cont)	Same Impact Summary as above.	<p><b>MM CNFRT-1c:</b> Temporary truck loading zones on the side streets may need to be established for the duration of the Project construction to offset any impacts along the streets that are directly affected by construction.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts.</p> <p>For the Utilities Relocation #2 Contract  SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: SFMTA-SSD will implement the temporary truck loading during construction based on actual needs. SFMTA-SSD will establish the temporary truck loading on the side streets. Will be included in the drawings submitted with the traffic control plan.  Relevant Technical Specs: 01 55 26 Traffic Control</p> <p>For the Tunnels Contract</p> <p>SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: SFMTA-SSD will implement the temporary truck loading during construction based on actual needs. SFMTA-SSD will establish the temporary truck loading on the side streets. Will be included in the drawings submitted with the traffic control plan</p>

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				<p>Relevant Technical Specs: 01 55 26 Traffic Control will be modified to require the Contractor to identify and submit the temporary truck loading locations for approval.</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package  SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: SFMTA-SSD will implement the temporary truck loading during construction based on actual needs. SFMTA-SSD will establish the temporary truck loading on the side streets. Will be included in the drawings submitted with the traffic control plan  Relevant Technical Specs: Traffic Regulations Specifications requires the Contractor to identify and submit the temporary truck loading locations for approval.</p> <p>For the Chinatown Station Work Package  SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: SFMTA-SSD will implement the temporary truck loading during construction based on actual needs. SFMTA-SSD will establish the temporary truck loading on the side streets.  Relevant Technical Specs: Traffic Regulations Specifications requires the Contractor to identify and submit the temporary truck loading locations for approval.</p> <p>For the Yerba Buena / Moscone Station Work Package  SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: SFMTA-SSD will implement the temporary truck loading during construction based on actual needs. SFMTA-SSD will establish the temporary truck loading on the side streets. Will be included in the</p>

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					<p>drawings submitted with the traffic control plan</p> <p>Relevant Technical Specs: Traffic Regulations Specifications requires the Contractor to identify and submit the temporary truck loading locations for approval.</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.</p> <p>Relevant Drawings: SFMTA-SSD will implement the temporary truck loading during construction based on actual needs. SFMTA-SSD will establish the temporary truck loading on the side streets.</p> <p>Relevant Technical Specs: Traffic Regulations Specifications requires the Contractor to identify and submit the temporary truck loading locations for approval.</p>
32.	CNFRT-2	<p>Cumulative construction impacts could occur on the block bounded by Perry, Third, Stillman, and Fourth Streets due to sequential construction of the 1-80 retrofit, Golden Gate Transit bus storage facility, and the Central Subway projects.</p>	<p><b>MM CNFRT-2a:</b> SFDPT will work with the property and business owners on Perry and Stillman Streets to develop temporary detour routes for traffic to maintain property access during construction and reduce the impacts to a less-than-significant level.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels and to the Systems/Trackwork Construction Contracts</p> <p>For the Tunnels Contract</p> <p>Specifications requires all lanes of Stillman St to remain open at all times. See MM TRF-2a.</p> <p>Relevant Drawings: TR-020,021,025,026</p> <p>Relevant Technical Specs: Spec 01 55 26 Article 3.01 Vehicular and Pedestrian Traffic Table 2 Tabulation of Traffic Lane Requirements</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u></p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. Implementation will be coordinated with property owners, City staff (Public Affairs Office) and the Contractor.</p> <p>Relevant Drawings: N/A</p> <p>Relevant Technical Specs: 01 55 26 Traffic Regulations</p>

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<b>15. CONSTRUCTION – PARKING (CNPRK)</b>				
33.	CNPRK-I	All on-street parking would be temporarily prohibited in construction zones.	<p><b>IM CNPRK-1a:</b> During construction signs denoting alternative parking areas (e.g., public parking garages) could be placed upstream of and through the construction zones.</p> <p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract Closed Dec. 2012 Changeable Message signs provided to allow for variable messaging. Relevant Drawings: TR-009 and TR010 Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Tunnels Contract</p> <p>Changeable Message Signs provided to allow for variable messaging.</p> <p>Relevant Drawings: TR-022,023,024 AND 025 Relevant Technical Specs: 01 55 26 Traffic Control</p> <p><b>Tunneling Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u></p> <p>For the Union Square/Market St Station Contract The contractor is required to submit a Traffic Control Plan (TCP) for approval that includes signage denoting access to parking areas.</p> <p>Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package The contractor is required to submit a Traffic Control Plan (TCP) for approval that includes signage denoting access to parking areas. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations - IFB December 14, 2011: See Para. 1.03 Submittals A. Traffic Control Plans, and Para. 3.13 Diverting of Vehicular Traffic. (updated: 09/17/12)</p>

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				<p>For the Yerba Buena / Moscone Station Work Package  The contractor is required to submit a Traffic Control Plan (TCP) for approval that includes signage denoting access to parking areas.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations - IFB February 15, 2012:  See Para. 1.03 Submittals A.1 Traffic Control Plans in addition to A.1.d. 12) "Location of detour signs and Changeable Message Signs (CMS)", and Para. 3.13 Diverting of Vehicular Traffic. (Updated: 09/17/12)</p> <p>For the Surface/Trackwork/Systems Work Package  The contractor is required to submit a Traffic Control Plan (TCP) for approval that includes signage denoting access to parking areas.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
34.	CNPRK-I (cont)	Same Impact Summary as above.	<p><b>IM CNPRK-1b:</b> To improve the accessibility to businesses in the Corridor, it is recommended that retained and added (where applicable) parking spaces be designated for short-term parking and loading, especially in commercial districts.</p> <p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract Closed Dec. 2012  SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p> <p>For the Tunnels Contract  SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p> <p><b>Tunneling Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u></p>

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				<p>For the Union Square/Market St Station Work Package</p> <p>Final Design Closed</p> <p>SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.            Relevant Drawings: N/A            Relevant Technical Specs: N/A</p> <p>For the Chinatown Station Work Package</p> <p>Final Design Closed</p> <p>SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.            Relevant Drawings: N/A            Relevant Technical Specs: N/A</p> <p>For the Yerba Buena / Moscone Station Work Package</p> <p>Final Design Closed</p> <p>SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.            Relevant Drawings: N/A            Relevant Technical Specs: N/A</p> <p>For the Systems/Trackwork Work Package</p> <p>Final Design Closed</p> <p>SFMTA-SSD will evaluate the needs during construction and will be included on the review process of Traffic Control Plan submittals by the Contractor.            Relevant Drawings: N/A            Relevant Technical Specs: N/A</p>



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<b>16. CONSTRUCTION PEDESTRIANS (CNPED)</b>					
35.	CNPED-I	<p>There will be temporary sidewalk closures during excavation of each of the subway stations.</p> <p>The west sidewalk of Stockton Street would be closed during construction of the Chinatown Station.</p>	<p><b>IM CNPED-1a:</b> During excavation of the subway stations, access to all abutting businesses would be maintained either through the existing or a reduced sidewalk area or via temporary access ways, e.g., ramps, planking, etc. Signs would be installed indicated that the businesses are "open during construction." All temporary access ways would be in compliance with the ADA. Temporary pedestrian walkways, as required by the City, would be covered to help protect pedestrians from noise, dust, and visual annoyances during construction.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Union Square/Market St Station, to the Chinatown Station, and the Yerba Buena/Moscone Station Construction Work Packages</p> <p><b>No change since last update.</b></p> <p>For the Union Square/Market St Station Work Package            ADA Compliant Covered Pedestrian Access with signage will be maintained when applicable            Relevant Drawings: ES-085            Relevant Technical Specs: 01 55 26 Traffic Regulations, 1.03A and 3.01A            Special Provision SP-27, Custom Barricades</p> <p>For the Chinatown Station Work Package            ADA Compliant Covered Pedestrian Access with signage will be maintained at all times.            Relevant Drawings: CV-201            Relevant Technical Specs: 01 55 26 Traffic Regulations, 1.01F and 3.01A            Special Provision SP-27, Custom Barricades</p> <p>For the Moscone Station Work Package            ADA Compliant Covered Pedestrian Access with signage will be maintained when applicable            Relevant Drawings: TR-002, TR-008, TR- 010 and TR-012 TR-023 (IFB - Feb. 15, 2012)            CV-011 Civil Drawing indicates the demolition work at the 76 Gas Station site.            Relevant Technical Specs:            01 55 26 Traffic Regulations, 1.03A.1.d and 3.01.A            01 56 10 Temporary Site Construction, 1.10 Barricades &amp; Accessible Path of Travel; 1.11 Fencing (IFB - Feb. 15, 2012)            01 57 19 Environmental Mitigation Measures, 1.04 Maintenance Of The Work Area And Debris Control; 1.07 Specific Dust Control Plan, 1.08 Noise Controls</p>
36.	CNPED-I (cont)	Same Impact Summary as above.	<p><b>IM CNBIC-1a:</b> Retain a wide curb or outside travel lane to facilitate bicycle travel. Where this is not possible, signage could be erected indicating temporary alternative routes, e.g.</p>	<p>Check Final Engineering documents for compliance.</p> <p>Monitor bicycle use on</p>	<p>This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Chinatown Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Surface/Trackwork/SystemsWork PackageContracts</p>

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		Second and Fifth Streets for bicyclists.	2nd and 5th Streets construction.  <b>Monitor during construction.</b>	<p>For the Tunnels Contract -</p> <p>Specification requires Contractor to perform the appropriate measures to ensure the safety of bicyclists on ALL streets on which there is construction. Specifications direct Contractor to Section 10: Bicycle Routes of the Blue Book. Install "Bicyclists Allowed Use of Full Lane" signs, or other approved equal, on streets with bicycle lanes during construction.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Control</p> <p><b>Tunneling Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u></p> <p>For the Union Square/Market St Station Work Package</p> <p>Specifications require the Contractor perform appropriate measures to ensure the safety of bicyclists on ALL streets on which there is construction. The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package</p> <p>Specifications require the Contractor perform appropriate measures to ensure the safety of bicyclists on ALL streets on which there is construction. The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>

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					<p>For the Yerba Buena / Moscone Station Work Package</p> <p>Specifications require the Contractor perform appropriate measures to ensure the safety of bicyclists on ALL streets on which there is construction. The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>Specifications require the Contractor perform appropriate measures to ensure the safety of bicyclists on ALL streets on which there is construction. The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
<b>17. CONSTRUCTION – BICYCLES (CNBIC)</b>					
37.	CNBIC-I	During construction, congestion on Fourth, Street resulting from the temporary lane reduction could divert traffic to Second and Fifth Streets, thereby impacting bicycle	<b>1M CNBIC-1b:</b> Implementation of the new bicycle routes on Second and Fifth Streets would facilitate bicycle travel on these streets.	<p>Check Final Engineering documents for compliance.</p> <p>Monitor bicycle use on 2nd and 5th Streets construction.</p> <p><b>Monitor during</b></p>	<p>This applies to the Union Square/Market St Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Surface/Trackwork/Systems Work Package.</p> <p><b>No change since last update.</b></p> <p>For the Union Square/Market St Station Work Package  The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This</p>

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	<p>travel on Bicycle Routes #11 and #19, respectively.</p> <p>Temporary diversion of traffic from Geary and Stockton Streets could impact bicycle travel, especially on Route #17.</p>		construction.	<p>project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p> <p>For the Yerba Buena / Moscone Station Work Package  The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p> <p>For the Surface/Trackwork/Systems Work Package  The 2nd Street bicycle lane implementation is to be incorporated into a San Francisco Department of Public Works Pavement Renovation Project. This project is currently going through the planning process within the SFMTA and its anticipated implementation will be late 2013. The implementation of bicycle lanes on 5th Street is on-hold; in conflict with future Muni line (#30 &amp;45) re-route.  Relevant Drawings: N/A  Relevant Technical Specs: N/A</p>
<b>18. CONSTRUCTION - EMERGENCY VEHICLE ACCESS (CNEEN)</b>				
38.	CNEMER-1	<p>Emergency response times from Fire Station #8 (36Bluxome Street) would be impacted by construction along Fourth Street for approximately 18 to 24months and from Fire Station #2, (1340</p>	<p>IM CNEMER-1a: Emergency response times from Fire Station #8 (36 Bluxome Street) would be impacted by construction along Fourth Street for approximately 18 to 24 months and from Fire Station #2 (1340 Powell Street) by temporary lanes closures on the west side of Stockton Street between Washington and Jackson Streets for the construction of the Chinatown Station. DPT will develop and implement alternative detour</p> <p>Check Final Engineering documents for compliance.</p> <p><b>Monitor emergency access during construction.</b></p>	<p>This applies to the Chinatown Subway Station and to the Surface/Trackwork/Systems Work Package</p> <p><b>No change since last update.</b></p> <p>For the Chinatown Station Work Package  Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours.  Relevant Drawings: TR-004  Relevant Technical Specs:01 55 26 Traffic Regulations</p>

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	Powell Street) by temporary closures on the west side of Stockton Street between Washington and Jackson Streets for the construction of the Chinatown Station.	routes for all general traffic to minimize the construction disruption to traffic flows.		For the Surface/Trackwork/Systems Work Package Traffic detours are included in the drawings. The contractor is required to submit a Traffic Control Plan (TCP) for approval that shows the detours. Relevant Drawings: TR-013 through TR-020 Relevant Technical Specs: 01 55 26 Traffic Regulations
39.	CNEMER-1 (cont) Same Impact Summary as above.	<b>IM CNEMER-1b:</b> Emergency response times from Fire Station #8 (36 Bluxome Street) would be impacted by construction along Fourth Street for approximately 18 to 24 months and from Fire Station #2 (1340 Powell Street) by temporary lanes closures on the west side of Stockton Street between Washington and Jackson Streets for the construction of the Chinatown Station. Contractor will be required to develop a site specific emergency access response plan as part of compliance with bid specifications.	Check Final Engineering documents for compliance.  <b>Monitor emergency access during construction.</b>	This applies to the Tunnels, to the Chinatown Subway Station, to the Moscone Subway Station, and to the Systems/Trackwork Construction.  For the Tunnels Contract  No work shall interfere with the access of emergency vehicles including those of Police and Fire Departments. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Control, 3.01  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer</u>  For the Chinatown Station Work Package No work shall interfere with the access of emergency vehicles including those of Police and Fire Departments. The contractor will be required, as part of the Traffic Control Plan to be submitted for approval, to notify the Fire Department when traffic lane closures occur. Emergency vehicles shall be given priority over all other vehicles at all times Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations, 3.01  For the Yerba Buena / Moscone Station Work Package  No work shall interfere with the access of emergency vehicles including those of Police and Fire Departments. The contractor is required to notify the Fire Department when traffic lane closures occur and that emergency vehicles shall be given priority over all other vehicles at all times.

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					<p>Emergency responses time from Fire Station #8 shall be addressed in the Contractor submittal, Site Specific Emergency Access Response Plan.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations, 1.03, Submittals, Section A.1.e, Site Specific Emergency Access Response Plan; 3.01, Table 2, 2nd footnote and, Notes, 4th bullet and; 3.02, Traffic Control and Construction Phasing; 3.19 Site Specific Emergency Access Response Plan</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>No work shall interfere with the access of emergency vehicles including those of Police and Fire Departments. The contractor is required to notify the Fire Department when traffic lane closures occur and that emergency vehicles shall be given priority over all other vehicles at all times  Relevant Drawings: N/A  Relevant Technical Specs: Assume same references as MOS: 01 55 26 Traffic Regulations, 103, Submittals, Site Specific Emergency Access Response Plan; 3.19 Site Specific Emergency Access Response Plan</p>
<b>19. CONSTRUCTION - LAND USE (CNLND)</b>					
40.	CNLND-I	There will be temporary construction impacts associated with parking and access to land uses.	<b>IM CNLND-1a:</b> Public information programs, including signage, as well as steps to ensure uninterrupted access to all uses along the Corridor, shall be used to minimize the construction impacts on neighboring land uses.	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts</p> <p>For the Tunnels Contract  Access, including signage, shall be required at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Control</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p>

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					<p>For the Union Square/Market St Station Work Package Access, including signage, shall be required at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package Access, including signage, shall be required at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package Access, including signage, shall be required at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package Requirement will be incorporated in Division 1 of Contract Specifications.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations Art. 3.01.A; Table 2 (Notes 7th Bullet for Changeable Mssg Signs)</p>
<b>20. CONSTRUCTION - COMMUNITY FACILITIES (CNCF)</b>					
41.	CNCF 1	Construction could temporarily disrupt access to community facilities and parks along the Corridor (Union Square).	<b>IM CNCF-1a:</b> Pedestrian access would be maintained to all community facilities, parks, and recreation areas during construction.	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts.</p> <p>For the Utilities Relocation #2 Contract  Access to Union Square is maintained throughout duration of construction. Requirements for maintaining pedestrian access are provided in Traffic Control specification.  Relevant Drawings: None  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Tunnels Contract  Access to Washington Square is maintained throughout duration of construction of Retrieval Shaft. Requirements for maintaining pedestrian access are provided in Traffic Control specification.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Control Article 3.01 Vehicular</p>

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				<p>and Pedestrian Traffic.</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package  Pedestrian Access will be maintained at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package  Pedestrian Access will be maintained at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package  Pedestrian Access will be maintained at all times.  Relevant Drawings: N/A  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package  Pedestrian Access will be maintained at all times.  Relevant Drawings: TBD  Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
42.	CNCF 1 (cont)	Same Impact Summary as above.	<p><b>IM -1b:</b> Traffic detours will be put in place to minimize disruption to traffic and public transit along the Corridor.</p>	<p>This applies to the Utilities Relocation #2, to the Tunnels, and to the Surface/Trackwork/Systems Work Package</p> <p>For the Utilities Relocation #2 Contract  Detour routes for transit and non-transit traffic are provided in plans and specifications. Contractor has proposed (and received approval for) alternate detour and lane closure plans as allowed by specifications.  Relevant Drawings: TR-009 and TR010  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Tunnels Contract    Detour routes for transit and non-transit traffic are provided in plans and</p>



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				<p>specifications.  Relevant Drawings: TR-022,023,024 AND 025  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Surface/Trackwork/Systems Work Package  This is incorporated into the temporary traffic routing specifications and plans.  Relevant Drawings: TR-001 through TR-029  Relevant Technical Specs: 01 55 26 Traffic Regulations,  Art. 3.01 A; Table 2 (Note 1), 3.02 &amp; 3.13</p>
43.	CNCF-2	<p>Lane closures during construction could affect emergency vehicle access time, particularly for Fire Station #8 (36 Bluxome Street) which is located on Bluxome.</p>	<p><b>IM CNCF-2a:</b> Alternative vehicular and pedestrian circulation patterns that permit continued access to community and public facilities in these locations during construction would be developed and clearly identified during final design, in consultation with Department of Parking and Traffic (DPT) staff.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction..</b></p> <p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract  Traffic control specifications and plans show limits on concurrent construction work along Stockton Street (single block at a time) and provide minimum sidewalk and traffic lane requirements adjacent to active work zones.  Relevant Drawings: TR-001 through TR-008  Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Tunnels Contract</p> <p>Traffic control specifications and plans show limits on concurrent construction work and provide minimum sidewalk and traffic lane requirements adjacent to active work zones on Columbus Avenue at Retrieval shaft, along Stockton Street and on Fourth Street.  Relevant Drawings: TR-001 through TR-021  Relevant Technical Specs: 01 55 26 Traffic Control</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p>

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					<p>For the Union Square/Market St Station Work Package Continued access to community and public facilities have been incorporated into the traffic control specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package Continued access to community and public facilities have been incorporated into the traffic control specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package Continued access to community and public facilities have been incorporated into the traffic control specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package Continued access to community and public facilities have been incorporated into the traffic control specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
44.	CNCF-3	Construction of the entrance to the Union Square Market Street Station and construction adjacent to Verba Buena Gardens would result in temporary noise and dust impacts for park users.	<b>IM CNCF-3a:</b> City noise regulations will be included in the bid specifications to ensure that construction is in compliance.	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Utilities Relocation #2, to the Tunnels, and to the Surface/Trackwork/SystemsWork PackageContracts</p> <p>For the Utilities Relocation #2 Contract City noise regulations incorporated into Spec 01 57 19 Environmental Mitigation Measures. Relevant Drawings: N/A Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures</p> <p>For the Tunnels Contract  City noise regulations incorporated into Spec 01 57 19 Environmental Mitigation Measures. Relevant Drawings: N/A Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures</p>

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				<p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Surface/Trackwork/Systems Work Package City noise regulations are included in the bid specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 57 19 Envir. Mitigation Measures. Para. 1.08.A</p>
45.	CNCF-4	Emergency access and circulation could be temporarily disrupted on streets leading to construction sites.	<b>IM CNCF-4a:</b> Use a traffic control officer, at construction sites to facilitate traffic flows if circulation is disrupted.	<p><b>Monitor during construction.</b></p> <p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract Requirement have been incorporated in Division 1 of Contract Specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Tunnels Contract</p> <p>Requirement have been incorporated in Division 1 of Contract Specifications. Two Traffic Control Officers have been hired for the Central Subway to facilitate traffic flow. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Control</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package Requirement has been incorporated in Division 1 of Contract Specifications. Two Traffic Control Officers have been hired for the Central Subway to facilitate traffic flow. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Chinatown Station Work Package</p> <p>Final Design Mitigation Task Closed</p>

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					<p>Requirement has been incorporated in Division 1 of Contract Specifications. Two Traffic Control Officers have been hired for the Central Subway to facilitate traffic flow. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Yerba Buena / Moscone Station Work Package</p> <p>Final Design Mitigation Task Closed Requirement has been incorporated in Division 1 of Contract Specifications. Two Traffic Control Officers have been hired for the Central Subway to facilitate traffic flow. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>Final Design Mitigation Task Closed Requirement has been incorporated in Division 1 of Contract Specifications. Relevant Drawings: N/A Relevant Technical Specs: 01 55 26 Traffic Regulations</p>
<b>21. CONSTRUCTION - PREHISTORIC/ HISTORICAL ARCH. RESOURCES (CNPRE)</b>					
46.	CNPRE 1	Excavation for the project will potentially affect Historical Archaeological Resources, including: 6 locations identified for the possible presence of sensitive prehistoric archaeological resources, one known archaeological resource, and 13 locations where historical archaeological	<b>MM CNPRE-1a:</b> Consistent with the SHPO MOA with the City, FTA, and SFMTA shall work with a qualified archaeologist to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced.	Check Final Engineering documents for compliance.	<p>This applies to all of the Construction Contracts .</p> <p>For the Utilities Relocation #2 Contract To date, in order to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced, the SFMTA has used the services of the Sonoma State Archeological Department to develop a site-specific Archaeological Research Design and Testing Program in the South of Market area, a program-wide Archaeological Research Design and Testing Program, an Archeological Monitoring Plan and an Archeological Testing Plan. Archeological Drilling (Geo-Probing) has been performed at the Tunnel Portal Area and the Station area and is planned for the Union Square/Market Street area to search for archeological remains. Relevant Drawings: N/A Relevant Technical Specs: Section 01 11 00 1.11, Discovery of Archeological Sites</p>

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	resources might be uncovered.	<b>M CNPRE-1a:</b> Consistent with the SHPO MOA with the City, FTA, and SFMTA shall work with a qualified archaeologist to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced.	Check Final Engineering documents for compliance.	<p>For the Tunnels Contract</p> <p>To date, in order to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced, the SFMTA has used the services of the Sonoma State Archeological Department to develop a site-specific Archeological Research Design and Testing Program in the South of Market area, a program-wide Archeological Research Design and Testing Program, an Archeological Monitoring Plan and an Archeological Testing Plan. Archeological Drilling (Geo-Probing) has been performed at the Tunnel Portal Area and the Station area and is planned for the Union Square/Market Street area to search for archeological remains.  Relevant Drawings: N/A  Relevant Technical Specs: Special Provision SP-17, Discovery of Archeological Sites</p> <p>For the Union Square/Market St Station Work Package</p> <p>To date, in order to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced, the SFMTA has used the services of the Sonoma State Archeological Department to develop a program-wide Archeological Research Design and Testing Program, an Archeological Monitoring Plan and an Archeological Testing Plan. Archeological Drilling (Geo-Probing) will be performed at the Station Area by the Contractor to search for archeological remains.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archeological Discoveries</p> <p>For the Chinatown Station Work Package</p> <p>To date, in order to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced, the SFMTA has used the services of the Sonoma State Archeological Department to develop a program-wide Archeological Research Design and Testing Program, an Archeological Monitoring Plan and an Archeological Testing Plan.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archeological Discoveries; 1254R IFB - prepared for Advertisement. See Para. 1.04 F Archaeologist Services and 1.04 G "monitoring personnel including Native American Representatives".  (updated: 09/17/12)</p>

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					<p>For the Yerba Buena / Moscone Station Work Package  To date, in order to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced, the SFMTA has used the services of the Sonoma State Archeological Department to develop a site-specific Archeological Research Design and Testing Program in the South of Market area, a program-wide Archeological Research Design and Testing Program, an Archeological Monitoring Plan and an Archeological Testing Plan. Archeological Drilling (Geo-Probing) will be performed at the Station Area by the Contractor to search for archeological remains.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archeological Discoveries; IFB dated February 15, 2012. See Para. 1.04 F Archeologist Services and 1.04 G "monitoring personnel including Native American Representatives". (updated: 09/17/12)</p> <p>For the Surface/Trackwork/Systems Work Package  To date, in order to ensure that all state and federal regulations regarding cultural resources and Native American concerns are enforced, the SFMTA has used the services of the Sonoma State Archeological Department to develop a program-wide Archeological Research Design and Testing Program, an Archeological Monitoring Plan and an Archeological Testing Plan.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archeological Discoveries</p>
47.	CNPRE 1	Same Impact Summary as above.	<b>MM CNPRE-1b:</b> Limited subsurface testing in identified archaeologically sensitive areas shall be conducted once an alignment has been selected.	Check Final Engineering documents for compliance.	<p>This applies to all of the Construction Contracts</p> <p><b>No change since last update.</b></p> <p>For the Utilities Relocation #2 Contract  No subsurface testing is being performed for Utility Contract 2 as most of the work is being performed in sub-sidewalk basement vaults and therefore no potential archeological sensitive areas are anticipated to be disturbed.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 11 00 1.11, Discovery of Archaeological Sites</p>

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				<p>For the Tunnels Contract</p> <p>Archaeological Drilling (Geo-Probing) has been performed at the Tunnel Portal Area (the only sensitive location for the Tunnel Contract) to search for archeological remains. Nothing of any significance was found.  Relevant Drawings: N/A  Relevant Technical Specs: Special Provision SP-17, Discovery of Archaeological Sites</p> <p>For the Union Square/Market St Station Work Package  Environmental Drilling was performed at the Station area in the 2nd Quarter of 2012.  An archaeologist monitored this drilling for potential archaeological discoveries.  Archaeological Drilling (Geo-Probing) was performed at the Station Area by the Contractor to search for archeological remains.  The Archeologist consultant submitted an UMS Archaeological Testing Report Sept. 24, 2012.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Chinatown Station Work Package  Due to the inaccessibility of the site and limited sensitivity no subsurface testing will be performed during Final Design.  Relevant Drawings: N/A  Relevant Technical Specs:  Section 01 35 40, Archaeological Discoveries; 1254R IFB prepared for Advertisement. See Para. 3.03 Archaeological Sensitivity Zones.  (updated: 09/17/12)</p> <p>For the Yerba Buena / Moscone Station Work Package  Archaeological Drilling (Geo-Probing) has been performed at the Station Headhouse Area to search for archeological remains.</p> <p>Nothing of any significance was found. Also, results from archeological discoveries from the first Utility Contract will be used to develop the spec for the station contract. Archaeological Drilling (Geo-Probing) will be performed at the Station Area by the Contractor to search for archeological remains.  Relevant Drawings: N/A</p>

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					<p>Relevant Technical Specs: Section 01 12 17 Work Sequence and Constraints; IFB dated February 15, 2012. See Para. 1.03 D.8. complete Archaeological Geoprobng as "early activity" before surface or subsurface construction activities can commence.</p> <p>Section 01 35 40, Archaeological Discoveries; IFB dated February 15, 2012. See Para. 3.03 Archaeological Sensitivity Zones. (updated: 09/17/12)</p> <p>For the Surface/Trackwork/Systems Work Package  Due to the limited sensitivity no subsurface testing will be performed.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p>
48.	CNPRE 1	Same Impact Summary as above.	<p><b>MM CNPRE-1c:</b> During construction, archaeological monitoring shall be conducted in those sections of the alignment identified in the completed HCASR and through pre-construction testing as moderately to highly sensitive for prehistoric and historic-era archaeological deposits.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts.</p> <p>For the Utilities Relocation #2 Contract  In addition to the contract requirements the SFMTA is providing an on site archaeological monitor and native American representative during excavation activities.  Relevant Drawings: NA  Relevant Technical Specs: Section 01 11 00 1.11, Discovery of Archaeological Sites</p> <p>For the Tunnels Contract  Contractor requirements included in Special Provisions. SFMTA is providing an on site archaeological monitor and native American representative during excavation activities.  Relevant Drawings: N/A  Relevant Technical Specs: Special Provision SP-17, Discovery of Archaeological Sites</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package  SFMTA will provide an on site archaeological monitor and Native American representative during excavation activities.</p>



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					<p>Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Chinatown Station Work Package  SFMTA will provide an on site archaeological monitor and Native American representative during excavation activities.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries; 1254R IFB prepared for Advertisement. See Para. 3.01 Archaeological Investigations, Para. 3.02 Sequence of Operations, Para. 3.04 Consultation and Coordination, and Para 3.05 Evaluation and Treatment Decision Process for Historical Archaeology.  (updated: 09/17/12)</p> <p>For the Yerba Buena / Moscone Station Work Package  SFMTA will provide an on site archaeological monitor and Native American representative during excavation activities.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries; IFB dated February 15, 2012. See Para. 3.01 Archaeological Investigations, Para. 3.02 Sequence of Operations &amp; Para. 3.04 Consultation and Coordination  (updated: 09/17/12)</p> <p>For the Surface/Trackwork/Systems Work Package  SFMTA will provide an on site archaeological monitor and Native American representative during excavation activities.  Relevant Drawings: N/A  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p>
49.	CNPRE 1	Same Impact Summary as above.	<b>MM CNPRE-1d:</b> Upon completion of archaeological field investigations, a comprehensive technical report shall be prepared for approval by the San Francisco Environmental Review Officer that describes the archaeological findings and interpretations in accordance with state and	Check Final Engineering documents for compliance.	<p>This applies to all of the Construction Contracts - No change since last contract.</p> <p>For the Utilities Relocation #2 Contract  Report is currently being developed by the archaeologist retained by the SFMTA.  Relevant Drawings: N/A</p>

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		federal guidelines.		<p>Relevant Technical Specs: Section 01 11 00 1.11, Discovery of Archaeological Sites</p> <p>For the Tunnels Contract</p> <p>Report will be developed at the end completion of construction by the archaeologist retained by the Contractor.  Relevant Drawings: NA  Relevant Technical Specs: Special Provision SP-17, Discovery of Archaeological Sites</p> <p>For the Union Square/Market St Station Contract</p> <p>Report will be developed at the completion of construction by the archaeologist retained by the SFMTA.  Relevant Drawings: NA  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Chinatown Station Contract</p> <p>Report will be developed at the completion of construction by the archaeologist retained by the SFMTA.  Relevant Drawings: NA  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Yerba Buena / Moscone Station Contract</p> <p>Report will be developed at the completion of construction by the archaeologist retained by the SFMTA.  Relevant Drawings: NA  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>Report will be developed at the completion of construction by the archaeologist retained by the SFMTA.  Relevant Drawings: NA  Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p>

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50.	CNPRE 1	Same Impact Summary as above.	<p><b>MM CNPRE-1e:</b> If unanticipated cultural deposits are found during subsurface construction, soil disturbing activities in the vicinity of the find shall be halted until a qualified archaeologist can assess the discovery and make recommendations for evaluation and appropriate treatment to the ERO for approval in keeping with adopted regulations and policies.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts - No change since last report.</p> <p>For the Utilities Relocation #2 Contract In addition to the contract requirements the SFMTA is providing an on site archaeological monitor and native American representative during excavation activities. Relevant Drawings: NA Relevant Technical Specs: Section 01 11 00 1.11, Discovery of Archaeological Sites, of the 1250 and 1251 Utility Relocation Contract Packages.</p> <p>For the Tunnels Contract</p> <p>Contractor requirements included in Special Provisions. SFMTA is providing an on site archaeological monitor and Native American representative during excavation activities. Relevant Drawings: NA Relevant Technical Specs: Special Provision SP-17, Discovery of Archaeological Sites</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package Contractor requirements included in the specifications. SFMTA is providing an on site archaeologist, archaeological monitor, and Native American representative during excavation activities. Archaeologist is required to make recommendations to the ERO. Relevant Drawings: NA Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Chinatown Station Work Package Contractor requirements included in the specifications. SFMTA is providing an on site archaeologist, archaeological monitor, and Native American representative during excavation activities. Archaeologist is required to make recommendations to the ERO. Relevant Drawings: NA Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries,</p>

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				<p>Paragraphs 1.04 &amp; 3.01B5-Halt Work.</p> <p>For the Yerba Buena / Moscone Station Work Package Contractor requirements included in the specifications. SFMTA is providing an on site archaeologist, archaeological monitor, and Native American representative during excavation activities. Archaeologist is required to make recommendations to the ERO. Relevant Drawings: NA Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p> <p>For the Surface/Trackwork/Systems Work Package Contractor requirements included in the specifications. SFMTA is providing an on site archaeologist, archaeological monitor, and Native American representative during excavation activities. Archaeologist is required to make recommendations to the ERO. Relevant Drawings: NA Relevant Technical Specs: Section 01 35 40, Archaeological Discoveries</p>
<b>22. CONSTRUCTION - HISTORICAL ARCHITECTURAL RESOURCES (CNHARC)</b>				
51.	CNHARC-I	One historic architectural resource located at 933949 Stockton Street will be demolished and replaced by the Chinatown Station during construction of the project.	<b>MM CNHARC-1a:</b> Partial preservation of 933-949 Stockton Street or incorporation of elements of the building into the design of the new station building; salvage significant architectural features from the building for conservation in a historical display or exhibit in the CTS or in museums; and/or develop a permanent interpretive display for public use on the T-Third line cars or station walls.	<p>Check Final Engineering documents for compliance.</p> <p>This applies to the Chinatown Subway Station Work Package only.</p> <p>The historic architecture firm Carey and Co. found no historically significant elements of the existing building worth preserving. Space for displays, at this point just interpretations, is reserved at the concourse level. The program has worked with an artist to develop interpretive artwork within the station which will satisfy this mitigation Relevant Drawings: AR-134 AR-132 Relevant Technical Specs: N/A</p>
52.	CNHARC-I	Same Impact Summary as above.	<b>MM CN-HARC-1b:</b> If the 933-949 Stockton Street building is demolished, perform a Historic American Buildings Survey/Historic American engineering Record documentation.	<p>Check Final Engineering documents for compliance.</p> <p>This applies to the Chinatown Subway Station Construction Contract only .</p> <p><b>No change since last update</b></p> <p>The historic architecture firm of Carey and Co. has completed the report Relevant Drawings: N/A Relevant Technical Specs: N/A</p>

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53.	<p><b>CNHARC-2</b></p> <p>There are 25 historic architectural resources along the alignment that could be impacted by construction-related ground borne vibration and visual disturbance.</p>	<p><b>MM CNHARC-2a:</b> Pre-drilling for pile installation in areas that would employ secant piles with ground-supporting walls in the cut-and-cover areas would reduce the potential effects of vibration.</p>	<p>Design team has selected a drilled pile system that minimizes vibration and the need for pre-drilling. Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Chinatown Subway Station Construction Work Packages</p> <p>For the Tunnels Contract</p> <p>All proposed methods for installing shoring reflected in the plans (cased secant piles and diaphragm walls) are non-impact methods and therefore do not require predrilling for vibration control. Relevant Drawings: Required building monitoring measures for tunnel-related surface excavations at the TBM Launch Box are shown in Building Protection drawings BP- 113; required instrumentation for the TBM Retrieval Shaft is shown in BP-101. Instrumentation for the areas where drilled pile installation methods will be used for the UMS headwalls constructed as part of CN1252 is shown in Drawing BP-108. Relevant Technical Specs: Allowable vibration limits are specified in Section 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring. Section 31 09 15 Structural Instrumentation and Monitoring identifies specific historic buildings that require vibration monitoring</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package All proposed methods for installing shoring reflected in the plans (cased secant piles and diaphragm walls) are non-impact methods and therefore do not require predrilling for vibration control. Relevant Drawings: Building Protection Drawings Relevant Technical Specs: Allowable vibration limits specified in 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring.</p>

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				<p>For the Chinatown Station Work Package  The design utilizes slurry walls minimizing vibration so no drilling is required.  Relevant Drawings: Building Protection Drawings  Relevant Technical Specs: Allowable vibration limits specified in 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring.</p> <p>For the Yerba Buena / Moscone Station Work Package  The design utilizes slurry walls minimizing vibration so no drilling is required.  Relevant Drawings: Building Protection Drawings  Relevant Technical Specs: Allowable vibration limits specified in 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring.</p>
54.	CNHARC-2	Same Impact Summary as above.	<p><b>MM CNHARC-2b:</b> Vibration monitoring of historic structures adjacent to tunnels and portals will be specified in the construction documents to ensure that historic properties do not sustain damage during construction. Vibration impacts would be mitigated to a less-than-significant level. If a mitigation monitoring plan provides the following:</p> <ul style="list-style-type: none"> <li>· The contractor will be responsible for the protection of vibration-sensitive historic building structures that are within 200 feet of any construction activity.</li> <li>· The maximum peak particle vibration (PPV) velocity level, in any direction, at any of these historic structures should not exceed 0.12 inches/second for any length of time.</li> <li>· The Contractor will be required to perform periodic vibration monitoring at the closest structure to ground disturbing construction activities, such as tunneling and station excavation, using approved seismographs.</li> </ul> <p>Design team has selected a drilled pile system that minimizes vibration and the need for pre-drilling.  Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Chinatown Subway Station Construction Work Packages</p> <p>For the Tunnels Contract</p> <p>Final Design Mitigation Task Closed</p> <p>Allowable noise and vibration limits are provided in the specifications.  Relevant Drawings: Building Protection Drawings show block and parcel numbers for all buildings and can be used to locate historic buildings listed in Section 31 09 15 that require vibration monitoring.  Relevant Technical Specs: Allowable vibration limits are specified in Section 01 57 19 Environmental Mitigation Measures.  Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring.  Section 31 09 15 Structural Instrumentation and Monitoring identifies specific historic buildings that require vibration monitoring</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p>

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		<p>If at any time the construction activity exceeds this level, that activity will immediately be halted until such time as an alternative construction method can be identified that would result in lower vibration levels.</p>		<p>For the Union Square/Market St Station Work Package</p> <p>Final Design Mitigation Task Closed</p> <p>Allowable noise and vibration limits are provided in the specifications.  Relevant Drawings: Building Protection Drawings  Relevant Technical Specs: Allowable vibration limits specified in 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring.</p> <p>For the Chinatown Station Work Package</p> <p>Allowable noise and vibration limits are provided in the specifications.  Relevant Drawings: Building Protection Drawings  Relevant Technical Specs: Allowable vibration limits specified in 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring.</p> <p>For the Yerba Buena / Moscone Station Work Package</p> <p>Allowable noise and vibration limits are provided in the specifications.  Relevant Drawings: Building Protection Drawings  Relevant Technical Specs: Allowable vibration limits specified in 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring.</p>
<b>23. CONSTRUCTION - VISUAL AND AESTHETIC RESOURCES (V AES)</b>				
55.	CNVAES-1	The presence of construction equipment at the Yerba Buena / Moscone, Union Square, and	<p>IM CNVAES-1a: Construction staging areas and excavation sites in these areas may be screened from view during construction to minimize potential visual impacts.</p> <p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract  The contractor is installing 6' high wood barricades to alleviate the visual impacts. These barricades include the names/logos of the adjacent retail store.</p>

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	Chinatown Station locations and the North Beach tunnel excavation shaft would temporarily obstruct public views of these scenic landscapes and would temporarily change the streetscape along the Corridor.			<p>Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures</p> <p>For the Tunnels Contract:  Spec 01 56 10 requires a 6 foot chain link fence around site areas with protection to the public from traffic, mud, and grout spillage. Contractor will be required to add slats to fence for screening purposes.  Relevant Drawings: N/A  Relevant Technical Specs: 01 56 10 Temporary Site Construction</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package  The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts.  Relevant Drawings: N/A  Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.10A</p> <p>For the Chinatown Station Work Package</p> <p>The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts.  Relevant Drawings: N/A  Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.10A</p> <p>For the Yerba Buena / Moscone Station Work Package  The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts.  Relevant Drawings: N/A  Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.11, Fencing, Section C</p> <p>For the Surface/Trackwork/Systems Work Package  The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts.  Relevant Drawings: N/A Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.11 A 2</p>



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56.	CN-VAES-1	Same Impact Summary as above.	<p><b>IM CN-VAES-1b:</b> In visually sensitive landscapes, like Union Square and Chinatown, temporary screening or physical barriers around the station construction sites and shaded night lights may be used to reduce the visual effects of construction equipment and to reduce glare.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction</p> <p>For the Utilities Relocation #2 Contract  The contractor is installing 6' high wood barricades to alleviate the visual impacts. Any night work shall include shaded lighting.  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19</p> <p>For the Tunnels Contract</p> <p>The contractor is required to install barricades to alleviate the visual impacts. Any night work shall include shaded lighting.  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package  The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts. Construction lighting shall be directed to minimize nuisance to surrounding property owners and users.  Relevant Drawings: N/A  Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.10A, 1.14</p> <p>For the Chinatown Station Work Package  The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts. Construction lighting shall be directed to minimize nuisance to surrounding property owners and users.  Relevant Drawings: N/A  Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.10A, 1.14</p>

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				<p>For the Yerba Buena / Moscone Station Work Package The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts. Construction lighting shall be directed to minimize nuisance to surrounding property owners and users. Relevant Drawings: N/A Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.10A, 1.14</p> <p>For the Surface/Trackwork/Systems Work Package The contractor is required to provide Chain Link Fence with Slats to minimize visual impacts. Construction lighting shall be directed to minimize nuisance to surrounding property owners and users.  Relevant Drawings: N/A Relevant Technical Specs: 01 56 10 Temporary Site Construction, 1.10A, 1.14</p>
<b>24. CONSTRUCTION – UTILITIES (CNUTL)</b>				
57.	CNUT-1	<p>Construction of the subway and stations would require major utility relocation work, which could affect private parcel connections to main utility lines and result in short-term utility service disruption as relocated utility lines are reconnected to the utility system.</p> <p>Utility relocation would require street and sidewalk excavations that would impact traffic and pedestrian flows adjacent to the relocation areas. Permanent vacation</p>	<p><b>IM CNUT-1a:</b> Utility relocation coordination would take place during detailed design in consultation with the utility agencies and the design team and would be phased to ensure that pedestrian and vehicular traffic flows are maintained.</p> <p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract Contract documents have been prepared in coordination with all affected City and private utilities. Relevant Drawings: All Relevant Technical Specs: Division 33 -- Utilities 01 55 26, Traffic Control</p> <p>For the Tunnels Contract : Contract documents have been prepared in coordination with all affected City and private utilities. Relevant Drawings: All Relevant Technical Specs: Division 33 -- Utilities</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Work Package Contract documents have been prepared in coordination with all affected City and private utilities.</p>

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	of subsurface sidewalk basements may be required.			Relevant Drawings: All Relevant Technical Specs: Division 33 -- Utilities  For the Chinatown Station Work Package Contract documents have been prepared in coordination with all affected City and private utilities. Relevant Drawings: All Relevant Technical Specs: Division 33 -- Utilities  For the Yerba Buena / Moscone Station Work Package Contract documents have been prepared in coordination with all affected City and private utilities. Relevant Drawings: All Relevant Technical Specs: Division 33 -- Utilities  For the Surface/Trackwork/Systems Work Package Contract documents are being prepared in coordination with all affected City and private utilities. Relevant Drawings: All Relevant Technical Specs: Division 33 -- Utilities
<b>25. CONSTRUCTION – GEOLOGY AND SEISMICITY (CNSET)</b>				
58.	CNSET-1	Construction period settlement could cause damage to existing building foundations, subsurface utilities, and surface improvements.	<b>MM CNSET-1a:</b> Provisions such as concrete diaphragm walls to support the excavation and instrumentation to monitor settlement and deformation would be used to ensure that structures adjacent to tunnel alignments are not affected by excavations.  Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	This applies to the Tunnels Construction Contract only  Shoring systems for TBM Launch Box and TBM Retrieval Shaft employ either internally braced cased secant piles or slurry type diaphragm walls to provide a relatively watertight and stiff support system. Instrumentation provided around all shafts to verify support system performance.  Relevant Drawings: Structural designs for diaphragm walls for TBM Launch Box are shown in Drawings: ES-501 through ES-563  For TBM Retrieval Shaft: ST-162 through 183 Required building monitoring measures for tunnel-related surface excavations at the TBM Launch Box are shown in Building Protection drawings BP- 113; required instrumentation for the TBM Retrieval Shaft is shown in BP-101. Relevant Technical Specs: Specifications for wall systems are provided in Section 31 62 13.14 Secant Pile Diaphragm Walls and 31 66 16.46 Slurry

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					Diaphragm Foundation Walls Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and Section 31 09 15 Structural Instrumentation and Monitoring. Vibration limits are specified in Section 01 57 19 Environmental Mitigation Measures.  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u>
59.	CNSET -1	Same Impact Summary as above.	<b>MM CNSET-1b:</b> Tunnel construction methods that minimize ground movement, such as pressure-faced TBMs, Sequential Excavation Method, and ground improvement techniques such as compensation grouting, jet grouting or underpinning will be used.	Check Final Engineering documents for compliance.	This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Chinatown Subway Station Construction Work Packages.  For the Tunnels Contract  Final Design Mitigation Task Closed  State-of-the-art Pressurized Face TBMs are required for the tunnel construction. Mandatory compensation grouting required for all buildings that the TBM tunnels cross beneath (Grout A buildings). Relevant Drawings: Building Protection drawings BP-121 through BP-131 show buildings where use of compensation grouting is mandatory. Drawings BP-101 through BP113 show layout of required settlement instrumentation. Relevant Technical Specs: Section 31 71 19 Tunnel Excavation by Tunnel Boring Machine provides specific requirements for mandatory use of a pressurized face tunnel boring machine. Allowable vibration limits are specified in Section 01 57 19 Environmental Mitigation Measures. Instrumentation and monitoring requirements are contained in Sections 31 09 13 Geotechnical Instrumentation and Monitoring and 31 09 15 Structural Instrumentation and Monitoring. Compensation grouting requirements are addressed in Section 31 43 14 Compensation Grouting.

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					<p>For the Union Square/Market St Station Work Package This mitigation measure refers to tunnel construction, and does not apply to the construction of Union Square / Market Street Station. Relevant Drawings: N/A Relevant Technical Specs: N/A</p> <p>For the Chinatown Station Work Package This mitigation measure refers to tunnel construction, and does not apply to the construction of Chinatown Station. Relevant Drawings: N/A Relevant Technical Specs: N/A</p> <p>For the Yerba Buena / Moscone Station Work Package This mitigation measure refers to tunnel construction, and does not apply to the construction of Yerba Buena / Moscone Station. Relevant Drawings: N/A Relevant Technical Specs: N/A</p>
60.	CNSET -1	Same Impact Summary as above.	<b>MM CNSET-1c:</b> Rigorous geomechanical instrumentation would be used to monitor underground excavation and grouting or underpinning will be employed to avoid displacement of structures.	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Chinatown Subway Station Construction Work Packages.</p> <p>For the Tunnels Contract</p> <p>Mandatory compensation grouting is required for all buildings that the TBM tunnels cross beneath (Grout A buildings). Mandatory settlement/deformation instrumentation required on all potentially affected buildings along alignment and inside BART Tunnels. Relevant Drawings: See Building Protection drawing series BP-001 through BP-316 Relevant Technical Specs: 31 09 13 Geotechnical Instrumentation and Monitoring 31 09 15 Structural Instrumentation and Monitoring</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p>

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				<p>For the Union Square/Market St Station Work Package</p> <p>Required building monitoring and compensation grouting measures for station-related excavations are shown in the Building Protection drawings. Instrumentation and monitoring requirements, as well as requirements for a compensation grouting program to mitigate building settlement, are contained in the technical specifications.  Relevant Drawings: BP- drawings  Relevant Technical Specs: 31 09 13 Geotechnical Instrumentation and Monitoring  31 09 15 Structural Instrumentation and Monitoring  31 43 14 Compensation Grouting</p> <p>For the Chinatown Station Work Package</p> <p>Contract documents outline the specific measures and mitigation strategies available to the contractor to minimize displacement of structures. Detailed instrumentation inside the cavern excavation, on the ground surface, in the ground between the cavern and the ground surface and of individual buildings will inform the use of mitigation measures, such as compensation grouting and modification of the ground excavation and support methods.  Relevant Drawings: BP-011, -012,-013,-031 and -032; ES-981, -982, -983, -984, -985, -986 and -991  Relevant Technical Specs: 31 09 13 Geotechnical Instrumentation and Monitoring; 31 09 13.60 SEM Tunnel Instrumentation and Monitoring; and 31 09 15 Structural Instrumentation and Monitoring; 31 43 14 Compensation Grouting</p> <p>For the Yerba Buena / Moscone Station Contract</p> <p>Required building monitoring and compensation grouting measures for station-related excavations are shown in the Building Protection drawings. Instrumentation and monitoring requirements, as well as requirements for a compensation grouting program to mitigate building settlement, are contained in the technical specifications.  Relevant Drawings: BP- drawings  Relevant Technical Specs: 31 09 13 Geotechnical Instrumentation and Monitoring  31 09 15 Structural Instrumentation and Monitoring  31 43 14 Compensation Grouting</p>

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61.	CNSET -2	Construction of the deep subway crossing under the BART tunnel could result in the potential displacement of the BART structures..	<b>MM CNSET-2a:</b> Automated ground movement monitoring will be used to detect distortion on the BART/Muni Metro tunnels and grout pipes will be placed prior to tunnel excavation to allow immediate injection of compensation grouting to replace ground losses if deformation exceeds established thresholds.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	This applies to the Tunnels Construction Contract only  Mandatory compensation grouting is required where the TBM tunnels cross beneath the BART tunnels. Mandatory settlement/deformation instrumentation is required inside the BART Tunnels.  Relevant Drawings: See Building Protection drawing series BP-122, 123 and 124 and through BP-313 and 316 Relevant Technical Specs: 31 09 15 Structural Instrumentation and Monitoring 31 43 14 Compensation Grouting  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u>  <b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u>
<b>26. CONSTRUCTION – HYDROLOGY AND WATER QUALITY (CNHWQ) )</b>					
62.	CNHWQ-I	Construction activities at the Union Square Station could increase or otherwise disrupt flow of ground water to the Powell Street Station.	<b>MM CNHWQ-1a:</b> Watertight shoring and fully waterproof station structures will be designed and constructed to avoid compounding ground water inflows to the Powell Street Station.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	This applies to the Union Square/Market St Subway Station Construction Work Package only.  Station structures are designed to avoid compounding ground water inflows to the Powell Street Station. Requirements of a Hydrogeological Study have been incorporated into the contract documents.  Relevant Drawings: ST-911 to ST-919 Relevant Technical Specs: 07 14 16 Cold Fluid-Applied Waterproofing
<b>27. CONSTRUCTION – BIOLOGICAL AND WETLAND RESOURCES (CNBIO)</b>					
63.	CNBIO-1	Construction could result in the removal of existing street trees along the surface segment of Fourth Street, at station entries on Fourth and Stockton	<b>IM CNBIO-1a:</b> Any street trees removed or damaged as part of construction would be replaced along the street at a 1:1 ratio.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	This applies to the Utilities Relocation #2 and to the Tunnels Construction Contracts  For the Utilities Relocation #2 Contract Trees removed will be replaced at a ratio of 2:1. Current plans require removal of only one tree. Relevant Drawings: N/A Relevant Technical Specs: 01 76 29 Protection of Existing Property Article

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	Streets, and at the One Stockton entrance to Chinatown.			<p>1.06 Street Tree Protection</p> <p>For the Tunnels Contract</p> <p>Relevant Drawings: Landscaping Plans LA-011, 012, 021, 022 and 031  Relevant Technical Specs: 01 76 29 Protection of Existing Property Article 1.06 Street Tree Protection  32 90 05 Tree Protection, Pruning, Root Pruning and Removal  32 90 00 Planting</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>a. A single tree in the median divider of Columbus Ave. was signed for removal in compliance with the notification b. The location of where the tree in the median divider of Columbus Ave. is to be removed is shown in the Landscaping Demolition Plan Sheet 2 of 2, Drawing No. LA-012  c. The removal of the tree was preceded by a permit from DPW-Bureau of Urban Forests (BUF) Aug. 2012  d. A permit for removal was been requested from BUF July 2012.  e. The permit process requires a notification including a posting on the tree; the posting was placed on the tree.  f. The location where the replacement tree would be planted is shown on the Landscaping Planting Plan Sheet 1 of 2, Drawing No. LA-021.  g. By carrying out the contract specifications and implementing the contract drawings through completion, the contractor would carry out the mitigation specified in the MMRP.</p>
64.	CNBIO-2	During construction of the North Beach Tunnel Variant for removal of the tunnel boring machine at Columbus Avenue and Union Street, adjacent to Washington Square Park, exposure of roots of mature trees	<b>IM CNBIO-2a:</b> A certified arborist would be present as needed during excavation of the Columbus Avenue TBM retrieval shaft to monitor protection of tree roots.	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p> <p>This applies to the Tunnels Construction Contract only</p> <p>For the Tunnel Contract - Construction Implementation</p> <p>a. The specification call out specific tasks the contractor will carry out during construction near trees.  b. A tree protection plan has been prepared to carry out these tasks. A certified arborist Jim Clark, HortScience, Inc., was selected and retained.  c. HortScience submitted Monitoring Report #1 Union Columbus tree inspection of Synergy 9-14 2012 from a monitoring of the excavation on Columbus Ave 9-14.  HortScience recommended tree protection when performing work in close</p>



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	could occur.			<p>proximity to the trees.  d. The arborist will be present as needed during excavation to monitor protection of tree roots.  e. By carrying out the specifications below, the construction contractor, with the arborist on site, carries out the mitigation specified in the MMRP.</p> <p>Relevant Drawings: Landscaping Plans LA-011, 012, 021, 022 and 031  Relevant Technical Specs: 01 76 29 Protection of Existing Property Article 1.06 Street Tree Protection  32 90 05 Tree Protection, Pruning, Root Pruning and Removal</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p>
<b>28. CONSTRUCTION - HAZARDOUS MATERIALS (CNHAZ)</b>				
65.		<p><b>MM CNHAZ-1a:</b> Implementation of mitigation measures similar to those required for properties under the jurisdiction of Article 20: preparation of a Site History Report; Soil Quality Investigation, including a Soils Analysis Report and a Site Mitigation Report (SMR); description of Environmental Conditions; Health and Safety Plan (HSP); Guidelines for the Management and Disposal of Excavated Soils; and a Certification Statement that confirms that no mitigation is required or the SMR would mitigate the risks to the environment of human health and safety. This measure would ensure that the project impacts are mitigated to a less-than-significant level.</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract – Construction Contract Closed Dec. 2012  Specifications address management, handling and disposal of hazardous materials as well as the health and safety aspects.  Relevant Drawings: N/A  Relevant Technical Specs: 01 35 29.10 Health and Safety  01 57 19 Environmental Mitigation Measures  01 57 23 Environmental Management of Excavated Materials</p> <p>For the Tunnels Contract  Specifications address management, handling and disposal of hazardous materials as well as the health and safety aspects.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: 01 35 29.10 Health and Safety  01 57 19 Environmental Mitigation Measures  01 57 23 Environmental Management of Excavated Materials  <b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p>

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		<p><b>CNHAZ-1a:</b> Implementation of mitigation measures similar to those required for properties under the jurisdiction of Article 20: preparation of a Site History Report; Soil Quality Investigation, including a Soils Analysis Report and a Site Mitigation Report (SMR); description of Environmental Conditions; Health and Safety Plan (HSP); Guidelines for the Management and Disposal of Excavated Soils; and a Certification Statement that confirms that no mitigation is required or the SMR would mitigate the risks to the environment of human health and safety. This measure would ensure that the project impacts are mitigated to a less-than-significant level. <b>(continued from previous page)</b></p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>For the Union Square/Market St Station Contract</p> <p>The contractor shall perform a Soil Quality Investigation by taking soil borings, performing soil sampling, and soil testing prior to excavation in order to determine the types of material, whether hazardous, and the appropriate facility for disposal or reuse. The contractor shall submit a monthly Soils Analysis Report, in the form of a spreadsheet, for all soils to be disposed from the site. For a Site Mitigation Report the contractor shall list the disposal locations of all excavated soils on this spreadsheet. The specifications include a Description of Environmental Conditions, titled as "Site Conditions", that lists all the reports available to the contractor relating to Environmental Conditions.</p> <p>The contractor is required to submit a Health and Safety Plan, designated as Injury Illness Prevention Program, for approval. Contractor shall also adhere to all the requirements listed in Specification 01 35 29.10, Health and Safety.</p> <p>The contractor is required to submit for approval an Excavated Materials Management Plan that states their guidelines for the Management and Disposal of Excavated Soils. Certification Statement that confirms that no mitigation is required or the SMR would mitigate the risks to the environment of human health and safety shall be conformed to by generating Hazardous Waste or Non Hazardous Waste Manifests.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: 01 35 00 Hazardous Materials Conditions  01 35 29.10 Health and Safety 1.03 &amp; 1.06  01 57 19 Environmental Mitigation Measures  01 57 23 Environmental Management of Excavated Materials</p> <p>For the Chinatown Station Contract</p> <p>The contractor shall perform a Soil Quality Investigation by taking soil borings, performing soil sampling, and soil testing prior to excavation in order to determine the types of material, whether hazardous, and the appropriate facility for disposal or reuse. The contractor shall submit a monthly Soils Analysis Report, in the form of a spreadsheet, for all soils to be disposed from the site. For a Site Mitigation Report the contractor shall list the disposal locations of all excavated soils on this spreadsheet. The specifications include a Description of Environmental Conditions, titled as "Site Conditions", that lists all the reports available to the contractor</p>

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				<p>relating to Environmental Conditions.</p> <p>The contractor is required to submit a Health and Safety Plan, designated as Injury Illness Prevention Program, for approval. Contractor shall also adhere to all the requirements listed in Specification 01 35 29.10, Health and Safety.</p> <p>The contractor is required to submit for approval an Excavated Materials Management Plan that states their guidelines for the Management and Disposal of Excavated Soils.</p> <p>Certification Statement that confirms that no mitigation is required or the SMR would mitigate the risks to the environment of human health and safety shall be conformed to by generating Hazardous Waste or Non Hazardous Waste Manifests.</p> <p>Relevant Drawings: N/A</p> <p>Relevant Technical Specs: 01 35 00 Hazardous Materials Conditions  01 35 29.10 Health and Safety 1.03 &amp; 1.06  01 57 19 Environmental Mitigation Measures  01 57 23 Environmental Management of Excavated Materials</p> <p>For the Yerba Buena / Moscone Station Contract</p> <p>The contractor shall perform a Soil Quality Investigation by taking soil borings, performing soil sampling, and soil testing prior to excavation in order to determine the types of material, whether hazardous, and the appropriate facility for disposal or reuse. The contractor shall submit a monthly Soils Analysis Report, in the form of a spreadsheet, for all soils to be disposed from the site. For a Site Mitigation Report the contractor shall list the disposal locations of all excavated soils on this spreadsheet.</p> <p>The specifications include a Description of Environmental Conditions, titled as "Site Conditions", that lists all the reports available to the contractor relating to Environmental Conditions.</p> <p>The contractor is required to submit a Health and Safety Plan, designated as Injury Illness Prevention Program, for approval. Contractor shall also adhere to all the requirements listed in Specification 01 35 29.10, Health and Safety.</p> <p>The contractor is required to submit for approval an Excavated Materials Management Plan that states their guidelines for the Management and Disposal of Excavated Soils.</p> <p>Certification Statement that confirms that no mitigation is required or the SMR would mitigate the risks to the environment of human health and safety shall be conformed to by generating Hazardous Waste or Non Hazardous</p>

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				<p>Waste Manifests.  Relevant Drawings: N/A  Relevant Technical Specs:  01 35 00 Hazardous Materials Conditions  01 35 29.10 Health and Safety 1.03 &amp; 1.06  01 57 19 Environmental Mitigation Measures  01 57 23 Environmental Management of Excavated Materials</p> <p>For the Surface/Trackwork/Systems Work Package</p> <p>The contractor shall perform a Soil Quality Investigation by taking soil borings, performing soil sampling, and soil testing prior to excavation in order to determine the types of material, whether hazardous, and the appropriate facility for disposal or reuse. The contractor shall submit a monthly Soils Analysis Report, in the form of a spreadsheet, for all soils to be disposed from the site. For a Site Mitigation Report the contractor shall list the disposal locations of all excavated soils on this spreadsheet. The specifications include a Description of Environmental Conditions, titled as "Site Conditions", that lists all the reports available to the contractor relating to Environmental Conditions.</p> <p>The contractor is required to submit a Health and Safety Plan, designated as Injury Illness Prevention Program, for approval. Contractor shall also adhere to all the requirements listed in Specification 01 35 29.10, Health and Safety.</p> <p>The contractor is required to submit for approval an Excavated Materials Management Plan that states their guidelines for the Management and Disposal of Excavated Soils.</p> <p>Certification Statement that confirms that no mitigation is required or the SMR would mitigate the risks to the environment of human health and safety shall be conformed to by generating Hazardous Waste or Non Hazardous Waste Manifests.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: 01 35 00 Hazardous Materials Conditions  01 35 29 Health and Safety  01 57 19 Environmental Mitigation Measures  01 57 23 Environmental Management of Excavated Materials</p>

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<b>29. CONSTRUCTION - NOISE AND VIBRATION (CNNV)</b>					
66.	CNNV-I	Historic buildings within 200 feet of a construction area may be subject to adverse vibration impacts if the maximum peak particle vibration (PPV) velocity level in any direction exceeds 0.12 inches/second for any length of time.	<b>MM CNNV-1a:</b> The Contractor shall be required to perform periodic vibration monitoring using approved seismographs at the historic structure closest to the construction activity. If the construction activity exceeds a 0.12 inches/second level, the construction activity shall be immediately halted until an alternative construction method that would result in lower vibration levels can be identified.	Check Final Engineering documents for compliance.  <b>Monitor during construction.</b>	<p>This applies to all of the Construction Contracts</p> <p>For the Utilities Relocation #2 Contract Noise and Vibration Control Plans are required per Contract Specifications. The City has a consultant on board who will monitor noise and vibration levels to ensure contract compliance. Relevant Drawings: N/A Relevant Technical Specs: Sections 01 57 19 1.08, Noise Control and 01 57 19 1.09, Vibration Control to Prevent Cosmetic Damage, of the 1250 and 1251 Utility Relocation Contract Specifications.</p> <p>For the Tunnels Contract Specifications address the 0.12 in/sec vibration level for historic structures.  Relevant Drawings: N/A Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures 31 09 15 Structural Instrumentation and Monitoring</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Contract Noise and Vibration Control Plans are required per Contract Specifications. The City has a consultant on board who will monitor noise and vibration levels to ensure contract compliance. The</p>

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				<p>specifications include vibration project action levels, including one for 0.12 inches/sec for adjacent historic structures that halt construction when met.                      Relevant Drawings: N/A                      Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures 31 09 15 Structural Instrumentation and Monitoring</p> <p>For the Chinatown Station Contract                      Noise and Vibration Control Plans are required per Contract Specifications. The City has a consultant on board who will monitor noise and vibration levels to ensure contract compliance. The specifications include vibration project action levels, including one for 0.12 inches/sec for adjacent historic structures that halt construction when met.                      Relevant Drawings: N/A                      Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures 31 09 15 Structural Instrumentation and Monitoring</p> <p>For the Yerba Buena / Moscone Station Contract                      Noise and Vibration Control Plans are required per Contract Specifications. The City has a consultant on board who will monitor noise and vibration levels to ensure contract compliance. The specifications include vibration project action levels, including one for 0.12 inches/sec for adjacent historic structures that halt construction when met.                      Relevant Drawings: N/A                      Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures 31 09 15 Structural Instrumentation and Monitoring</p> <p>For the Surface/Trackwork/Systems Work Package                      Noise and Vibration Control Plans are required per Contract Specifications. The City has a consultant on board who will monitor noise and vibration levels to ensure contract compliance. The specifications include vibration project action levels, including one for 0.12 inches/sec for adjacent historic structures that halt construction when met.                      Relevant Drawings: N/A                      Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures</p>

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67.	CNNV-1 (cont)	Same Impact Summary as above.	<p><b>MM CNNV-1b:</b> During construction, an acoustical consultant will be retained by the contractor to prepare a more detailed construction noise and vibration analysis to address construction staging areas, tunnel portals, cut-and-cover construction, and underground mining and excavation operations.</p> <p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p>	<p>This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Chinatown Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Surface/Trackwork/SystemsWork PackageContracts</p> <p>For the Tunnels Contract</p> <p>Final Design Mitigation Task Closed  Contract specifications require that the Contractor have a qualified noise and vibration consultant to develop and implement a Noise and Vibration Mitigation Monitoring and Reporting Program. The 1252 Contractor has a consultant on board and they are setting the instrumentation to establish baseline readings in order to prepare and submit the Noise and Vibration Control Plan.</p> <p>Relevant Drawings: N/A  Relevant Technical Specs: Sections 01 57 19 1.08, Construction Noise Controls and 01 57 19 1.09, Vibration Control of the Contract Specifications.</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident Engineer.</u></p> <p>For the Union Square/Market St Station Contract  The contractor is required to retain the services of a qualified noise and vibration consultant to develop a noise and vibration analysis (identified in the specs as the "Noise and Vibration Control Plan")  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08D</p> <p>For the Chinatown Station Contract  The contractor is required to retain the services of a qualified noise and vibration consultant to develop a noise and vibration analysis (identified in the specs as the "Noise and Vibration Control Plan")  Relevant Drawings: N/A</p>

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				<p>Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08C</p> <p>For the Yerba Buena / Moscone Station Contract The contractor is required to retain the services of a qualified noise and vibration consultant to develop a noise and vibration analysis (identified in the specs as the "Noise and Vibration Control Plan") Relevant Drawings: N/A Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08</p> <p>For the Surface/Trackwork/Systems Work Package The contractor is required to retain the services of a qualified noise and vibration consultant to develop a noise and vibration analysis (identified in the specs as the "Noise and Vibration Control Plan") Relevant Drawings: N/A Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08</p>
68.	CNNV-2	<p>Noise in the range of 85 to 89 dBA at 100 feet would be generated from construction activities along surface portions of the alignment and staging areas and station or portal construction areas. Vibration levels of 58 to 112 Lv at 25 feet would be experienced as a result of equipment used during at grade construction activities. Vibration impacts on buildings</p>	<p><b>IM CNNV-2a:</b> The incorporation of noise control measures would minimize noise impacts during construction: noise control devices such as equipment mufflers, enclosures, and barriers; stage construction as far away from sensitive receptors as possible; maintain sound reducing devices and restrictions throughout construction period; replace noisy with quieter equipment; schedule the noisiest construction activities to avoid sensitive times of the day.</p> <p>The contractor will hire an acoustical consultant to oversee the implementation of the Noise Control and Monitoring Plans; prepare a Noise Control Plan; and comply with the nighttime noise variance provisions.</p> <p>The consultant will conduct and report on periodic noise measurements to ensure</p>	<p>Check Final Engineering documents for compliance.</p> <p><b>Monitor during construction.</b></p> <p>This applies to the Tunnels, to the Union Square/Market St Subway Station, to the Chinatown Subway Station, to the Yerba Buena / Moscone Subway Station, and to the Surface/Trackwork/SystemsWork PackageContracts .</p> <p>For the Tunnels Contract: Noise restrictions are incorporated in the specifications. The contractor is required to develop Noise and Vibration Control Plans. The 1252 Contractor has a consultant on board and they are setting the instrumentation to establish baseline readings in order to prepare and submit the Noise and Vibration Control Plan. Relevant Drawings: N/A Relevant Technical Specs: Sections 01 57 19 1.08, Construction Noise Controls and 01 57 19 1.09, Vibration Control of the Contract Specifications.</p> <p><b>Tunnel Construction Monitoring Status:</b> <u>Underway and On Going</u></p> <p><b>Monitoring source:</b> <u>Contractor submittals and IDRs received by Resident</u></p>



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	could result from equipment used for underground construction, particularly from tunneling.	compliance with the Noise Monitoring Plan using up to date equipment certified to meet specified lower noise level limits during nighttime hours.		<p><u>Engineer.</u></p> <p>For the Union Square/Market St Station Contract  The specifications include noise restrictions addressing this mitigation. The contractor is also required to develop a Noise and Vibration Control Plan. This plan will address adhering to the restrictions.  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08 Construction Noise Controls</p> <p>For the Chinatown Station Contract  The specifications include noise restrictions addressing this mitigation. The contractor is also required to develop a Noise and Vibration Control Plan. This plan will address adhering to the restrictions.  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08 Construction Noise Controls</p> <p>For the Yerba Buena / Moscone Station Contract  The specifications include noise restrictions addressing this mitigation. The contractor is also required to develop a Noise and Vibration Control Plan. This plan will address adhering to the restrictions.  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08 Construction Noise Controls</p> <p>For the Surface/Trackwork/Systems Work Package  The specifications include noise restrictions addressing this mitigation. The contractor is also required to develop a Noise and Vibration Control Plan. This plan will address adhering to the restrictions.  Relevant Drawings: N/A  Relevant Technical Specs: 01 57 19 Environmental Mitigation Measures, 1.08 Construction Noise Controls</p>

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