

# C Line (Green) Extension to Torrance

# **Draft Environmental Impact Report**

**Appendix 2-C** 

**Project Features** 

January 2023



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### 1. INTRODUCTION

As a part of the Proposed Project and Options, several project features would be implemented during construction or operations, which would ensure compliance with the laws, guidelines, and best practices of regulatory agencies. These project features consist of design features, best management practices, and other measures that would be required by law and/or permit approvals by federal, state, regional or local agencies or that demonstrate best practices in transit construction and operation.

# 2. LIST OF PROJECT FEATURES

#### 2.1. TRANSPORTATION PROJECT FEATURES

#### PF-T-1. Construction Traffic Management Plan (CTMP)

Metro Rail Design Criteria (MRDC) requires that contractors develop a CTMP prior to the initiation of localized construction activities. Per Metro standard practice, this CTMP (inclusive of street closure information, detour plans, haul routes, and a staging plan) shall be prepared and submitted to the Cities of Lawndale, Redondo Beach, and Torrance for review. For the Hawthorne Option, it would also be submitted to Caltrans. Caltrans would also review selected areas of the Proposed Project or Trench Option, such as bridge construction over Artesia Boulevard. The CTMPs shall be based on the nature and timing of the specific construction activities at each of the construction sites. This coordination will ensure construction activities of the concurrent related projects and associated hauling activities are managed in collaboration with one another and the Proposed Project. The CTMPs may be updated as construction progresses to reflect progress at the various construction sites. The CTMPs will include, but not be limited to, the following elements, as appropriate:

- > As traffic lane, parking lane, sidewalk closures and full road closures are anticipated, worksite traffic control plans, approved by the local jurisdictions and Caltrans, shall be developed and implemented to route vehicular traffic, bicyclists, and pedestrians around any such closures.
- > As partial and full street closures are anticipated at various locations during portions of the Project construction, detour plans, approved by the local jurisdictions, shall be developed and implemented to route vehicular traffic, pedestrians and bicyclists to alternative routes during these periods, including maintaining access for these modes across Hawthorne Boulevard during construction.
- > Ensure that vehicle and pedestrian access will remain available from at least one entry and egress point for properties in proximity to the alignments and component sites during construction with access to businesses maintained during normal business hours; nighttime closures may be possible and accordingly arranged with property owners.
- > Coordinate with the city and emergency service providers to ensure emergency access is provided to the alignments and component sites and neighboring land uses. Emergency access points will be marked accordingly in consultation with local fire departments, as applicable.
- > Provide off-site truck staging in a legal area furnished by the construction truck contractor.
- > Schedule deliveries and pick-ups of construction materials during non-peak travel periods to the extent possible and coordinate to reduce the potential of trucks waiting to load or unload for protracted periods.



#### 2.2. AESTHETICS PROJECT FEATURES

#### **PF-AES-1. Local Zoning Ordinances**

All project components located on properties outside of existing Metro-owned right-of-way (Metro ROW) and public ROW would adhere to local zoning ordinances.

#### PF-AES-2. Metro Design Standards

All project components, including, but not limited to track guideway, auxiliary facilities, station (public and ancillary) facilities, and the parking facility, will be designed per the MRDC and consistent with the objectives of the Metro Art Program Policy, Metro's Transit Service Policies & Standards, Systemwide Station Design Standards Policy, and Standard/Directive Drawings, or equivalent. Landscaping and operational lighting will also be installed consistent with these design standards.

#### 2.3. AIR QUALITY PROJECT FEATURES

#### PF-AQ-1. Metro Green Construction Policy Compliance

Following construction equipment requirements, construction best management practices (BMP) and implementation strategies for all construction projects performed on Metro properties or rights-of-way.

- > Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards.
- > Maintain equipment according to manufacturer specifications.
- > Idling of construction equipment and heavy-duty trucks shall be restricted to a maximum of five minutes when not in use (certain exceptions apply based on California Air Resources Board [CARB] exemptions).
- > All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier-4 off-road emission standards at a minimum.
- > All on-road heavy-duty trucks with a gross vehicle weight rating greater than or equal to 14,000 pounds must have engines meeting U.S. 2010 on-road emission standards.
- > Where applicable and feasible, work with local jurisdictions to improve traffic flow by signal synchronization during construction activities.
- > Use electric power in lieu of diesel power where available.
- > Generators: every effort shall be made to utilize grid-based electric power at any construction site, where feasible. Where access to the power grid is not available, on-site generators must:
  - Meet a 0.01 gram per brake-horsepower-hour (g/bhp-hr) standard for particulate matter (PM); or,
- > Be equipped with Best Available Control Technology (BACT) for PM emissions reductions.
- > Inspections: Metro shall conduct inspections of construction sites and affected off-road and on-road equipment and generator as well as compliance with air quality rules.
- > Records: Prior to Notice to Proceed (NTP) to commence construction and to be verified afterwards consistent with project contract requirements and through enforcement provisions above, the Contractor shall submit to Metro the following information for all construction equipment to be used on Metro properties or rights-of-way:



- A certified statement that all construction equipment used conform to the requirements specified above;
- A list of all the equipment and vehicles (i.e., off-road equipment, include the CARB-issued Equipment Identification Number) to be used;
- A copy of each Contractor's certified US. Environmental Protection Agency (EPA) rating and applicable paperwork issued either by CARB, the South Coast Air Quality Management District (SCAQMD), and any other jurisdiction that has oversight over the equipment.

# PF-AQ-2. SCAQMD Rule 403 Compliance

Construction of the Proposed Project would implement the following BMPs in compliance with SCAQMD Rule 403 – Fugitive Dust:

- > <u>Backfilling:</u> Backfill material stabilization when actively handling or inactive and stabilize soil at completion of activity.
- > <u>Clearing/Grubbing:</u> Maintain stability of soil through watering of site prior to, during, and after all clearing/grubbing activities.
- > <u>Cut and Fill:</u> Pre-water soils prior to cut and fill activities using water trucks; stabilize soil during and after activities.
- > <u>Debris Hauling:</u> All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.
- > <u>Demolition Activities:</u> Prohibit demolition activities when wind speeds exceed 25 mph; apply water to disturbed soils after demolition is completed or at the end of each day of cleanup.
- > <u>Disturbed Soil:</u> Stabilize disturbed soil throughout the construction site by limiting vehicular traffic and disturbance on soil where possible and applying water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes (Rule 401 Visible Emissions).
- > <u>Disturbed Surface Areas:</u> Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface; apply water at three-hour intervals to at least 80% of the un-stabilized area.
- > <u>Earth-Moving Activities</u>: Pre-apply water to depth of proposed cuts and reapply as necessary to maintain soils in a damp condition and to ensure that visible dust plumes do not exceed 100 feet in any direction.
- > <u>Importing/Exporting of Bulk Materials:</u> Stabilize material with tarps or other suitable enclosures on trucks while loading/unloading to reduce fugitive dust emissions and maintain at least six inches of freeboard on haul vehicle; provide water during loading/unloading to prevent dust plumes.
- > <u>Staging Areas and Unpaved Roads:</u> Stabilize surface areas and limit vehicle speeds to 15 miles per hour.
- > <u>Stockpiles/Bulk Material Handling:</u> stabilize stockpiled materials with intermittent watering and limit stockpiles to eight feet in height within 100 yards of off-site occupied buildings.
- > <u>Trenching:</u> Stabilize surface soils with pre-watering where trencher or excavator and support equipment will operate; wash mud and soils from equipment at completion of activities.



#### PF-AQ-3. Metro Moving Beyond Sustainability Strategic Plan Compliance

Construction and operation of the Proposed Project and Options will adhere to the commitments established by the Metro Moving Beyond Sustainability Strategic Plan 2020, including, but not limited to the application of renewable diesel requirements for contractors and identify opportunities to decarbonize fuel sources at construction sites.

#### PF-AQ-4. Metro Rail Design Guidelines

The Proposed Project and Options will be designed in accordance with the Metro Rail Design Criteria and the Metro Systemwide Station Design Standards Policy, which includes the installation of high-efficiency light emitting diode (LED) lighting in all fixtures to reduce electricity consumption.

#### 2.4. Noise and Vibration Project Features

## PF-NV-1. Quiet Zone Equipment Installation (Proposed Project and Trench Option)

The eight at-grade freight crossings between Inglewood Ave and 182nd Street have been designed and would be constructed to include all Federal Railroad Administration (FRA)-required Supplemental Safety Measures and associated improvements and equipment that are needed to qualify for Automatic FRA Approval to establish a quiet zone. In order to establish a quiet zone, local jurisdictions will need to submit a Notice of Intent to the operating railroads (e.g. BNSF), California Public Utilities Commission (CPUC), Metro, and FRA followed by a Notice of Establishment, which would ultimately eliminate the sounding of freight horns within the project limits. Crossing signal bells would continue to generate a minimum of noise level of 75 decibels A (dBA) at 10 feet per American Railway Engineering and Maintenance of Way requirements.

#### PF-NV-2. Crossing Signal Bell Shrouds (Proposed Project)

Crossing signal bells at the two at-grade light rail crossings (170th Street and 182nd Street) would be equipped with shrouds to direct bell noise away from sensitive receivers and towards the crossings. Crossing signal bell noise would not exceed 104 dBA sound exposure level at 50 feet. This measure is subject to CPUC authorization.

## PF-NV-3. Gate-Down-Bell-Stop Variance (Proposed Project)

Metro would apply for a gate-down-bell-stop variance at the two at-grade light-rail crossings (170th Street and 182nd Street) to reduce the duration of bell ringing and therefore reduce impacts at sensitive receivers. Crossing signal noise would not exceed 30 seconds in duration. This measure is subject to CPUC authorization.

#### 2.5. GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES PROJECT FEATURES

#### PF-GEO-1. Metro Geotechnical Design Standards

The Proposed Project shall be designed and constructed per the MRDC. Key compliance sections of the MRDC relative to geology and soils are Section 5.3, Section 5.4, Section 5.6, and MRDC Section 5 Appendix, Metro Supplemental Seismic Design Criteria (SSDC). Section 5.6 of the MRDC provides detailed requirements for planning and conducting a geotechnical investigation, geotechnical design methodologies, and reporting. In accordance with the MRDC, geotechnical report recommendations shall be incorporated into the project plans and specifications. These recommendations shall be a product of final design and shall address potential subsurface hazards. In addition, Caltrans and the



California Building Code (CBC) have independent design criteria for bridges, aerial structures and building structures, which shall be followed.

As noted in Section 3.8-1.2, SSDC outlined in the MRDC Section 5 appendix (Metro, 2017) recommends the seismic stability and potential permanent deformation of sloping ground or embankments supporting aerial guideway and bridges along proposed alignments be investigated. Investigations should include evaluation of the potential for ground liquefaction and related deformations. The evaluations and associated analyses shall be displacement-based leading to the determinations of potential lateral deformations of slopes or embankments and ground settlement. It is recommended that the total settlement and lateral ground deformations under operating design earthquake (ODE) seismic events shall not be allowed to exceed two inches to allow for track re-leveling or re-alignment. Larger deformations may be allowed for maximum design earthquake (MDE) events on a case-by-case basis on approval by Metro.

The MRDC section also provides details on how the stability analysis of the slopes and embankments is to be performed. Two options are provided: (1) seismic coefficient approach for pseudo-static case or (2) slope displacement method. If the factor of safety is less than 1.1, then slope performance shall be evaluated using Method (2) where displacements are computed using Newmark time-history analyses.

Metro Supplemental Seismic Design Criteria outlined in the MRDC Section 5 appendix provides guidance for liquefaction studies. If potentially liquefiable soils are identified along proposed alignments, liquefaction susceptibility shall be determined using the procedures documented in the American Association of State Highway and Transportation Officials-California Load and Resistance Factor Design Bridge Design Specifications. The liquefaction potential assessment should consider the impact of the following effects where liquefaction is judged to occur:

- > Loss of strength of liquefied layers (post liquefaction residual strength)
- > Flow failures, slope deformations
- > Post liquefaction ground settlement

According to the SSDC, the displacement performance of slopes and embankments underlain by liquefied soils may be evaluated in a similar manner to non-liquefiable cases, except residual strengths of liquefied soils are used in analyses. The post-liquefaction settlement of liquefied soil layers may be determined using procedures documented by Tokimatsu and Seed (1987). The bridge and elevated rail structures located in liquefaction sites should be analyzed for non-liquefiable and liquefiable soil configurations. For the liquefiable condition, residual strengths of liquefied soil layers are used for lateral and axial deep foundation response analyses. For those sites where liquefaction related permanent lateral ground displacements are determined to occur, the effects on pile performance shall be evaluated. Down drag forces on piles due to post liquefaction settlement shall also be evaluated. If the above impact assessments yield unacceptable performance of the structures, appropriate measures shall be incorporated into the design.

As outlined in the MRDC Section 5.6, the geotechnical investigation should evaluate impacts related to potential settlement due to lowering of the groundwater table or excavation instability due to draining of perched groundwater during construction activities. Specific topics to be considered in the geotechnical investigation include the following:



- > Selection of appropriate construction methodology that minimizes permanent changes to sub-surface drainage conditions or groundwater pressures.
- > Installation of dewatering wells outside trench walls, sump pumps within the trench, deep secant pile walls to minimize excavation base instability, heaving of soils on the upgradient side of the trench, fluidization, and erosion.
- > Identification of zones of relatively high permeability strata with high potential to excessive groundwater influx and recommend construction methodology and design technologies such as keying secant pile walls into lower permeability strata.

#### 2.6. HAZARDS AND HAZARDOUS MATERIALS PROJECT FEATURES

#### PF-HHM-1. Handling, Storage, and Transport of Hazardous Materials and Wastes

Prior to the start of construction, the contractor would provide Metro with a hazardous waste and hazardous materials management plan, such as a plan defined in Title 19 California Code of Regulations (CCR), or a Spill Prevention, Control, and Countermeasure Plan. The plan will be completed to Metro contractor specifications and will comply with the State Water Resources Control Board (SWRCB) Construction Clean Water Act (CWA) Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and storage of hazardous materials during construction and operation. The plan will identify the responsible parties and outline procedures for hazardous waste and hazardous materials handling, storage, and transport. The excavation and transport of soils contaminated by heavy metals (e.g., lead) would be managed according to SCAQMD Rule 1466 (Control of Particulate Emissions from Soils with Toxic Air Contaminants) and SCAQMD Rule 1166 (volatile organic compounds [VOC] emissions from Decontamination of Soil). The plan would also prescribe BMPs to follow to prevent hazardous material releases and for cleanup of any hazardous material releases that may occur.

Additionally, the contractor would comply with applicable federal and state regulations regarding hazardous material handling and storage practices, such as the Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, the Hazardous Materials Release Response Plans and Inventory Law, and the Hazardous Waste Control Act.

#### PF-HHM-2. Demolition Plans

Prior to the start of construction, the contractor would prepare demolition plans for the safe dismantling and removal of building components and debris. The demolition plans would also include plans for testing and abatement procedures for asbestos-containing materials, lead-based paint, and polychlorinated biphenyls, as well as handling and disposal of treated wood waste and universal waste in accordance with federal and state regulations, including the 1994 Federal Occupational Exposure to Asbestos Standards, SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities), Title 22 of the California Code of Regulations Division 4.5 (Hazardous Waste), the U.S. Department of Housing and Urban Development Lead- Based Paint Guidelines, and Title 40 of the Code of Federal Regulations Part 761.

# PF-HHM-3. Property Acquisition Phase II Site Investigation

Consistent with Metro's standards, a Phase II site investigation would be conducted during the preliminary engineering phase on sites that would be acquired/utilized for the project to determine whether the suspected contamination had resulted in soil, groundwater, or soil vapor contamination



exceeding regulatory action levels. Aerially deposited lead testing would be included as part of the Phase II site investigation. If the Phase II site investigation concludes that the site is contaminated, remediation or corrective action (e.g., removal of contamination, in-situ treatment, capping) would be conducted prior to or during construction under the oversight of federal, state, and/or local agencies (e.g., USEPA, Department of Toxic Substance Control [DTSC], Regional Water Quality Control Boards [RWQCB], Los Angeles County) and in full compliance with current and applicable federal and state laws and regulations. Additionally, Voluntary Cleanup Agreements may be used for parcels where remediation or long-term monitoring is necessary. Generally, recognized environmental conditions (REC), also known as sites of concern as identified in the Phase I Environmental Site Assessment (ESA), would be remediated by the property owner prior to acquisition of the property and construction on the site, depending on the arrangement negotiated during property acquisition.

#### PF-HHM-4. Soil, Soil Vapor, and Groundwater Management Plans

Prior to the start of construction, the contractor would retain a qualified environmental consultant to prepare a Soil Management Plan, Soil Reuse Management Plan, and/or a Soil, Soil Vapor, and Groundwater Management Plan. These plans would be completed to Metro's contractor specifications and submitted to Metro prior to any ground-disturbing activities for the Project.

The Soil and Soil Vapor Management Plan would establish provisions for the disturbance of contaminated materials (known and undocumented). Proper management and disposition of contaminated soils and gases would be determined in consultation with appropriate regulatory agencies and in accordance with applicable federal and/or state guidance (USEPA, DTSC, RWQCB, and other local agencies). The Soil Reuse Management Plan would establish provisions for the reuse of contaminated known or undocumented soils. Proper management and disposition of contaminated soils would be determined in consultation with appropriate regulatory agencies and in accordance with applicable federal and/or state guidance (USEPA, DTSC, RWQCB, and other local agencies). Contaminated soil shall be disposed of at a permitted landfill per the specifications of DTSC or RWQCB or other agencies overseeing the project construction.

The Groundwater Management Plan would establish provisions for encountering and managing contaminated groundwater (known and undocumented). Proper disposal of contaminated groundwater would be determined in consultation with appropriate regulatory agencies and in accordance with applicable federal and/or state guidance (USEPA, DTSC, RWQCB, and other local agencies).

Where open or closed regulatory release cases are already managed by a regulatory agency (e.g., USEPA, DTSC, RWQCB) and construction involves plans to alter the use of the site and/or disturb contaminated soil and/or groundwater onsite, Metro would notify the regulatory agency of the planned land use changes prior to ground-disturbing activities at the location of the open or closed regulatory release site. The regulatory agency would determine the level of investigation and/or remediation (performance standards) necessary on a case-by-case basis. A closure or no further action determination letter from the regulatory agency would be obtained when investigation and/or remediation is complete.

# PF-HHM-5. Disposal of Groundwater

If disposal of contaminated groundwater is required during construction, Metro would consult with the RWQCB, and the Project would comply with permits required by the RWQCB. The RWQCB may require a National Pollutant Discharge Elimination System permit and/or Water Discharge Requirement (WDR)



permit for dewatering and discharge activities. The County of Los Angeles Department of Public Works (LACDPW) would be contacted prior to discharging groundwater into their sewer or stormwater systems. The groundwater discharge and disposal requirements vary by agency, location, concentration, and contaminants of concern and are therefore developed in consultation with the agencies.

#### PF-HHM-6. Oil and Gas Wells

Prior to ground-disturbing activities, all oil wells (including abandoned or suspected wells) within 200 feet of the project would be identified, inspected, and addressed in accordance with the California Department of Conservation, California Geologic Energy Management Division (CalGEM) standards and in coordination with the well owners. Where the alignment cannot be adjusted to avoid well casings, CalGEM and a re-abandonment specialty contractor would be contacted to determine the appropriate method of re-abandoning the well. Oil well abandonment must proceed in accordance with California Laws for Conservation of Petroleum and Gas (1997), Division 3. Oil and Gas, Chapter 1. Oil and Gas Conservation, Article 4, Sections 3228, 3229, 3230, and 3232. The requirements include written notification to CalGEM, protection of adjacent property, and before commencing any work to abandon any well, obtaining approval by CalGEM. Abandonment work, including sealing off oil and gas bearing units, pressure grouting, etc., must be performed by a state-licensed contractor under the regulatory oversight and approval of CalGEM. If an unknown well is encountered during Project construction, the contractor will notify Metro, California OSHA, and CalGEM and proceed in accordance with state requirements.

## 2.7. HYDROLOGY AND WATER QUALITY PROJECT FEATURES

# PF-HWQ-1. Stormwater Pollution Prevention Plan (SWPPP) Implementation per Construction General Permit and MS4 Permit

Construction of the Proposed Project, Trench Option, and Hawthorne Option would disturb greater than one acre of ground surface and are thus subject to the Construction General Permit SWPPP requirements. The SWPPP would include BMPs designed to prevent impacts to water quality from occurring during construction. BMPs included would be the minimum BMPs required by the MS4 Permit for all construction sites and additional BMPs determined necessary by the SWPPP developer. BMPs designed to prevent introduction of chemicals, trash, and/or hazardous substances into waters may include but are not limited to fueling equipment offsite, secondary containment, drip pans, spill response plans, and designed waste receptacles on site. BMPs designed to prevent erosion, prevent sedimentation, and slow and capture runoff on the construction site may include but are not limited to stabilized construction entrances/exits, fiber rolls, silt fences, sandbags, water application for dust control, check dams, drainage inlet protections, infiltration basins, and hydroseeding. BMPs would be implemented before, during, and/or immediately after construction.

# PF-HWQ-2. Groundwater Treatment and Discharge per RWQCB Waste Discharge Requirements (WDR) for Construction Dewatering

Per the requirements of the RWQCB WDR for Construction Dewatering, dewatered groundwater would be treated if necessary and then discharged in a pre-approved location specified by said requirements.



#### PF-HWQ-3. Trench Construction Groundwater Pressure Control

During Trench Option construction, BMPs would be implemented that include but are not limited to installing wall drains and appropriate drainage at the top of the trench to help relieve groundwater pressure buildup along the trench walls (Metro 2022b). BMPs used for groundwater pressure control would minimize the potential for introduction of pollutants into groundwater and surface flows, as well as the potential for erosion, siltation, and flooding to occur on or offsite.

#### PF-HWQ-4. Trench Construction Runoff Collection and Treatment

During Trench Option construction, surface runoff flowing within the trench would be collected, pumped out of the trench, treated (if necessary), and discharged a pervious area on site for infiltration into the soil. BMPs used for surface runoff collection, treatment, and discharge would minimize the potential for introduction of pollutants into surface runoff, as well as the potential for erosion, siltation, flooding, and exceedance of existing storm drain system capacities on or offsite. Surface runoff treatment and discharge would comply with RWQCB Basin Plan water quality requirements.

#### PF-HWQ-5. Temporary Storm Drain Inflow Rerouting

Although no existing storm drain rerouting is proposed under the Trench Option, runoff from the Trench Option footprint may be directed to different discharge points than existing points to avoid adverse hydrology and water quality impacts. Hawthorne Option construction would involve the permanent rerouting of two major storm drains running parallel to the alignment and one minor storm drain crossing the alignment. While these new permanent storm drain routes are constructed, temporary rerouting of inflows would be necessary during Hawthorne Option construction.

For both the Trench and Hawthorne Options, stormwater inflows would be captured, treated (if necessary), rerouted around the construction site, and discharged into the existing storm drain system. Treatment and discharge of storm drain inflows to the existing storm drain system would be conducted per RWQCB Basin Plan water quality requirements.

#### PF-HWQ-6. Low Impact Development (LID) BMPs per Regional Requirements

The operational design of the Proposed Project, Trench Option, and Hawthorne Option would include LID BMPs designed to retain the Stormwater Quality Design Volume (SWQDv) on site per regional LID requirements. Examples of potential LID BMPs that may be implemented include but are not limited to increasing runoff's flow path length of travel and providing on-site detention basins for retainment and infiltration. Additional runoff (beyond the SWQDv) would continue to be discharged via new or existing tie-ins to the existing stormwater drainage system. In elevated portions of the alignment, runoff would be collected by down drains. Discharge locations of underdrains installed along the Proposed Project alignment would be the same as existing discharge locations. Although no existing storm drain rerouting is proposed under the Trench Option, runoff from the Trench Option footprint may be directed to different existing discharge points. Rerouted storm drains under the Hawthorne Option would be discharged to the same or similar discharge points as existing conditions. Existing catch basins on adjacent storm drains would be retained during operation to prevent debris and trash from entering the stormwater drainage system.



#### PF-HWQ-7. Trench Operation Runoff Collection and Treatment

During Trench Option operation, runoff that exceeds the SWQDv in the trench would be collected via a sump drainage system (two sumps in the vicinity of Manhattan Beach Boulevard and 182nd Street) at the low point along the trenched alignment. Runoff collected in the sump would be treated as needed, and then would either be pumped or flow via gravity from the sump to the existing storm drain system in compliance with RWQCB Basin Plan water quality requirements.

# PF-HWQ-8. City of Torrance Flood Zone Requirements

A small portion of the Proposed Project temporary footprint would be located within the 100-year flood zone, where a temporary construction easement would be needed for removal of an existing spur track. Construction in this area would be required to comply with Division 7, Chapter 9 of the Torrance City Code, titled "Flood Hazard Insurance." This section establishes a development permit process for flood hazard areas, designates a floodplain administrator for the City, and establishes standards for construction within flood hazard areas.

#### 2.8. Public Utilities and Service Systems Project Features

## PF-US-1. Utility Identification and Coordination

Per Metro standard practice, prior to the start of any demolition or construction activities, the construction contractor will verify the locations of existing utilities potentially affected by construction activities. This will include coordinating with all existing utility providers for wet and dry utilities (water, sewer, gas, electric, and telecommunications) to obtain documentation of existing utility locations. Field verification (i.e., potholing and other methods as appropriate) shall be conducted to document the locations of all utilities within proximity to the guideway and station foundations of the guideway and station foundations, and other project elements that may affect utilities. Based on the information from the field investigations, the construction contractor will be responsible for coordinating with the appropriate utility owners/operators to determine specific setback requirements for each utility line and the need for any stabilization for protection in place or relocation measures.

#### **PF-US-2. Service Interruption Notification**

Per Metro standard practice, prior to the start of any demolition or construction activities, the construction contractor will be responsible for coordinating with utility and service providers regarding potential utilities service interruptions due to relocation of existing utilities. The construction contractor will develop a construction plan in coordination with utilities and service providers to minimize interruptions of utilities systems to the greatest extent feasible, including providing temporary connection for services that must be disconnected for extended periods of time. Further, the construction contractor will develop a contingency plan in cooperation with the utility providers for emergency repairs of any utilities unexpectedly found or that disintegrated because of age during excavations. The public would be notified of areas where temporary utilities service interruptions are anticipated.

