

Westside Purple Line Extension

*Draft Supplemental Environmental Impact Statement and
Section 4(f) Evaluation*

Appendix A: Updated Mitigation Monitoring and Reporting Plan for Section 2



U.S. Department
of Transportation
Federal Transit
Administration

APPENDIX A—UPDATED MITIGATION MONITORING AND REPORTING PLAN FOR SECTION 2

The purpose of the mitigation monitoring effort is to ensure that the Mitigation Measures identified in the Final EIS/EIR to mitigate the potentially significant environmental effects of the project are, in fact, properly carried out. In its findings concerning the environmental effects of a project for which an EIS/EIR was prepared, a Lead Agency must also include a finding that a mitigation monitoring or reporting program has been prepared and provides a satisfactory program that will ensure avoidance or sufficient reduction of the significant effects of the project. The following mitigation monitoring plan contains a brief statement of all Mitigation Measures; identifies the monitoring action; indicates the party responsible for implementing the mitigation; and identifies the enforcement agency, monitoring agency and the monitoring phase or timing. The Los Angeles County Metropolitan Transportation Authority (Metro) shall be responsible for assuring full compliance with the provisions of this program. The Chief Executive Officer (CEO) of Metro may delegate duties and responsibilities to Metro staff, applicants, and consultants as necessary. The CEO shall also ensure that monitoring reports are filed on a timely basis and, when identified, that plan violations are corrected. Progress toward completion of the required mitigation plan, or violations thereof, shall be reported at prescribed intervals to the CEO. The reports shall be prepared using approved forms or an acceptable format. These reports will be available for public review at any time.

The mitigation monitoring plan published with the Final EIS/EIR has been revised based on the Draft SEIS for Section 2. The revisions to the original mitigation monitoring plan are shown in track changes and apply to only Section 2 of the Project.

Mitigation Measures	Monitoring Action	Party Responsible for Implementing Mitigation	Enforcement Agency Monitoring Agency Timeframe
Transportation			
<p>Mitigation:</p> <p>T-1—Coordination with Property Owners</p> <p>Metro will coordinate with the appropriate property owners and other relevant parties regarding permanent parking losses. All property owners will be compensated under the Uniform Relocation Assistance and Real Property Acquisition Act as described in mitigation measure CN-1 and will receive compensation for easements as described in mitigation measure CN-3.</p>	Verify coordination	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>T-2—Parking Monitoring and Community Outreach</p> <p>In the one-half mile area surrounding each station where unrestricted parking is located, a program will be established to monitor on-street parking activity in the area prior to the opening of service and monitor the availability of parking monthly for six months following the opening of service. Based on the available supply in each station area before the opening of service, Metro will set a performance standard that would identify a demand exceeding 100 percent of supply after opening as an impact due to the parking activity of LPA patrons. If the performance standard is met, LPA. Metro will work with the appropriate local jurisdiction (City of Los Angeles and City of Beverly Hills) and affected communities to assess the need for specific elements of a residential permit parking (RPP) program for the affected neighborhoods.</p> <p>For station areas at high risk of spillover Metro will conduct outreach meetings for the affected communities to gauge the interest of residents participating in an RPP program (prior to the opening of the subway), regardless of whether parking shortages have been identified.</p> <p>For the Westwood/VA Hospital Station, the majority of station-area parking supply is for the exclusive use of VA patients, visitors, doctors, and staff. Development of an RPP program for the VA is not applicable. At this station, Metro will monitor spillover parking at VA lots controlled only by decals and/or</p>	Report conditions and verify plan.	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Operations

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<p>signage (i.e., no gates or other controlled access). Once the subway has opened, an assessment of the spillover parking magnitude will be made, and if the spillover parking is determined to be unmanageable by VA security, a parking management plan for the VA campus will be developed and implemented.</p>			
<p>T-3—Residential Permit Parking Program</p> <p>In general, RPP districts are created to ensure that neighborhood residents have access to on-street parking. These programs are in effect across the United States, including Los Angeles County. They are commonly used to address spillover parking concerns, such as those that arise when residential neighborhoods are in close proximity to commercial districts that do not provide sufficient parking. Patrons of the commercial districts, who are non-residents, tend to spill over into adjacent residential neighborhoods to find parking. The impact that spillover parking causes is adverse, and restricting parking to residents only, or limiting the time non-residents can park, is one way to mitigate these adverse impacts.</p> <p>If the need for an RPP district has been determined through Mitigation Measure T-2, RPP programs will be implemented according to guidelines established by each local jurisdiction. Metro will reimburse local jurisdictions for costs associated with developing both the RPP programs and installing parking restriction signs in neighborhoods within a one-half mile walking distance of each affected station. Metro will not be responsible for the costs of permits for residents desiring to park on streets in RPP districts. For locations where spillover parking cannot be addressed through a RPP program, alternative mitigation options will include the implementation of parking time restrictions for non-residents. Metro will work with local jurisdictions to determine which option(s) will be preferable.</p>	<p>Verify funding.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Operations
<p>T-4—Consideration of Shared Parking Program</p> <p>Metro will consider developing a shared parking program with operators of off-street parking facilities to accommodate the LPA’s parking demand, thereby allowing subway riders to use excess capacity in these facilities. The revised off-street parking analysis conducted for the Final EIS/EIR determined that more than 100,000 off-street parking spaces serve commercial land uses within a one-half mile walking distance of the seven LPA station locations. As part of the analysis, a sampling of parking facility operators for each station location was contacted to determine availability of public parking in their facility on weekdays</p>	<p>Report conditions and verify plan.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Operations

<p>and weekends, daily parking rate, facility occupancy, and interest in partnering with Metro to make parking available to riders of the Westside Subway Extension. Based on a sample of operators at each station area, some shared parking potential for subway riders exists. However, this potential may be limited at individual facilities because many are near their capacity during weekdays.</p> <p>For six months following the opening of service, Metro will monitor off-street parking activity in station areas through communication with parking operators by quantitatively assessing through surveys the effects on parking demand as a result of the LPA and revisit their interest in participating in a shared parking program. It is anticipated that the LPA will reduce parking demand in station areas, as some employees will use the subway to commute to work rather than driving. Because the development of a shared parking program will be contingent on the willingness of parking facility operators to participate, as well as the availability of parking supply at their facilities, it may be infeasible to implement this measure at some or all station areas where spillover parking impacts have been identified.</p>			
<p>T-5—Install Crossing Deterrents Install appropriate signage and deterrents to prohibit crossing Wilshire Boulevard at Orange Grove Avenue. This mitigation measure would be implemented for the Wilshire/Fairfax Station South Entrance Option.</p>	Review and verify plans.	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>T-6—Install High-Visibility Crosswalk/Crossing Deterrents Stripe a high-visibility crosswalk on the east leg of the intersection of El Camino Drive and Wilshire Boulevard. If a crosswalk is not feasible, install appropriate signage and deterrents to prohibit crossing Wilshire Boulevard on the east side of El Camino Drive. This mitigation measure would be implemented for the Wilshire/Rodeo Station Union Bank Entrance Option.</p>	Review and verify plans.	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>T-7—Install High-Visibility Crosswalk Stripe a high-visibility crosswalk treatment appropriate for unsignalized intersections on the south leg of the intersection of Reeves Drive and Wilshire Boulevard. This mitigation measure would be implemented for Wilshire/Rodeo Station Ace Gallery Entrance Option.</p>	Review and verify plans.	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction

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<p>T-8—Install High-Visibility Crosswalk</p> <p>Stripe a high-visibility crosswalk treatment appropriate for unsignalized intersections on all four legs of Bonsall Avenue where it intersects with both the eastbound and westbound Wilshire Boulevard access ramps. Curb ramps fully compliant with ADA should be installed on all four corners. This mitigation measure would be implemented for the Westwood/VA Hospital Station South Entrance Option or the Westwood/VA Hospital Station North Entrance Option.</p>	<p>Review and verify plans.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>T-9—Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro- Controlled Parcels</p> <p>The LPA will be designed to ensure a minimum sidewalk/parkway width is provided on the portions of streets fronting parcels controlled by Metro, as required by General Plan street classification designation for each jurisdiction where an LPA station is located. For example, the Street Designations and Standards of the Transportation Element of the City of Los Angeles General Plan require a 12-foot-wide sidewalk/parkway on a Major Highway Class II, and a 10-foot-wide sidewalk/parkway on a Secondary. Thus, sidewalks on the portions of streets designated as Major Highway Class II that front parcels controlled by Metro will need a 12-foot-wide sidewalk/parkway.</p>	<p>Review and verify consistency</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>T-10—Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions</p> <p>Metro will coordinate with local jurisdictions to identify sidewalks in station areas that do not meet this minimum and will encourage local agencies to widen them. Sidewalks adjacent to parcels not controlled by Metro may be less than the required minimum per general plan designation. Because sidewalks are the responsibility of local jurisdictions, Metro does not have the authority to widen them directly, but will encourage local jurisdictions to do so.</p>	<p>Verify coordination</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior to Construction
<p>T-11—Provide High Visibility Crosswalk Treatments</p> <p>Metro will provide highly visible crosswalk treatments at intersections affected by LPA construction, following the Metro Rail Design Criteria.</p>	<p>Review and verify plans</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>T-12—Meet Federal, State, Local Standards for Crossing</p> <p>Metro will coordinate with local jurisdictions to identify crossings that do not meet current ADA, CA MUTCD, and other relevant Federal, State, and Local</p>	<p>Verify identification and coordination</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro

<p>standards and will encourage local jurisdictions to upgrade them accordingly. Beyond those directly affected by LPA construction activities, which Metro is responsible for upgrading on restoration of all streets and crossings affected by LPA construction activities, crossings that do not meet standards are the responsibility of local jurisdictions. Metro does not have the authority to upgrade them directly, but will encourage local jurisdictions to do so.</p>			<ul style="list-style-type: none"> ■ Prior to Construction
<p>T-13—Meet Metro Rail Design Criteria Minimums for Bicycle Parking</p> <p>The LPA will provide bicycle parking to meet the minimum required number of bicycle parking spaces per the Metro Rail Design Criteria. This mitigation measure would be implemented at all LPA station entrance options where it is feasible to implement, which is expected to be at the following stations:</p> <ul style="list-style-type: none"> ■ Wilshire/La Brea (all entrance options) ■ Wilshire/Fairfax (all entrance options except the LACMA entrance option) ■ Wilshire/La Cienega ■ Wilshire/Rodeo (Ace Gallery Entrance Option) ■ Westwood/UCLA Off-Street ■ Westwood/UCLA On-Street (Lot 36 Entrance) ■ Westwood/VA Hospital South ■ Westwood/VA Hospital North 	<p>Review and verify plans</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>T-14—Study Bicycle Parking Demand & Footprint Configuration</p> <p>Metro will continue to assess bicycle parking demand as the project progresses through the design and construction process and size the bicycle facilities at each station accordingly. Bicycle parking demand can vary station-to-station, and the footprint required to meet that demand will vary. For example, bicycle lockers are more space intensive, while secured bicycle rooms can accommodate bicycle parking in a more compact footprint. The appropriate configuration and ultimate footprint reserved for bicycle parking at each station will vary by demand levels and space constraints. The Westside Subway Extension Station Circulation Report (Metro 2011am) details footprint ranges for each station area based on configuration of bicycle parking.</p>	<p>Monitor bicycle parking demand around stations.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Operations
<p>T-15— Determine Alternative Sites for Bicycle Parking</p> <p>At LPA station entrance options that are physically constrained, Metro shall look for space for bicycle parking at an alternative site, which could include provision</p>	<p>Review and verify plans</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design

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<p>of secured bicycle parking in an adjacent storefront or other development, install signage to direct subway riders to bicycle parking already provided at buildings or on streets near station entrances, or provide enhanced bicycle parking facilities at an adjacent station on the LPA to meet any unsatisfied demand from this station. This mitigation measure would be implemented for the following LPA station entrance options:</p> <ul style="list-style-type: none"> ■ Wilshire/Fairfax Station—LACMA Entrance Option ■ Wilshire/Rodeo Station—Union Bank Entrance Option ■ Wilshire/Rodeo Station—Bank of America Entrance Option ■ Century City Constellation Station ■ Century City Santa Monica Boulevard Station ■ Westwood/UCLA On-Street Station (north and south entrances at Wilshire/Westwood Boulevards) 			
<p>T-16—Study Bus-Rail Interface</p> <p>Metro will continue to assess bus-rail interface. As a result of further study Metro, working with affected jurisdictions, will relocate bus stops at some LPA stations to minimize the number of streets riders must cross to transfer between the LPA and interfacing bus lines.</p>	<p>Verify study completion</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>TCON-1—Traffic Control Plans</p> <p>Site-specific traffic-control plans will be developed to minimize construction impacts for each work zone location. These locations will include, but not be limited to, utility relocations, stations, crossovers, laydown areas, TBM launch and removal locations, emergency exit shafts, station entrances, drop pipes, and grout injection. Traffic-control plans will follow State and local jurisdiction guidelines and standards. Traffic-control plans will be developed for Wilshire, Santa Monica, and Constellation Boulevards and north-south streets, including, but not limited to, La Brea Avenue, Fairfax Avenue, La Cienega Boulevard, Rodeo Drive, Beverly Drive, Canon Drive, Century Park East, Avenue of the Stars, Westwood Boulevard, Veteran Avenue, Sepulveda Boulevard, I-405 ramps to/from eastbound Wilshire Boulevard, and Bonsall Avenue. Traffic control plans will encompass the following:</p> <ul style="list-style-type: none"> ■ Minimum lane widths ■ Number of available travel lanes (two lanes minimum in each direction during peak periods) 	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction

<ul style="list-style-type: none"> ■ Number, length, and location of temporary right and left-turn lanes ■ Temporary street closures and detour routes ■ Traffic-control devices (signing and striping) ■ Temporary traffic signals and street lighting ■ Temporary pedestrian access and routes ■ Temporary bicycle routes ■ Temporary driveway access ■ Temporary business access ■ Construction site phasing <p>To facilitate traffic flow and mitigate major disruption and bottlenecks due to construction, advanced traffic control will extend beyond one arterial street on each side of each station construction location. This will help disperse peak-hour traffic flows onto the adjacent arterial street network. Business owners will be interviewed to identify the type of business, delivery and shipping schedules, and critical days/times of years for the business. Traffic-control plans will incorporate this information. Specific street closures will be developed in close coordination with the local jurisdictions during the Final Design phase.</p>			
<p>TCON-2—Designated Haul Routes</p> <p>Designated truck haul routes using arterial streets are intended to minimize noise, vibration, and other possible impacts to adjacent businesses, schools, major commercial developments, and residential neighborhoods. Metro will incorporate the following objectives into its truck haul route plans:</p> <ul style="list-style-type: none"> ■ Establish nighttime truck haul operations times/days for each route. Truck haul operations will not be allowed in the AM and PM peak hours, in residential neighborhoods (where feasible), during noise restriction hours and special events, holiday season restrictions, and as restricted by State and local jurisdictional mandates. ■ Establish truck haul headways to avoid platoons of trucks upon local arterial streets and freeways. Establish a vehicle dispatching system at construction laydown areas and off-site locations to monitor and address truck headway issues as they arise. ■ Develop truck haul routes for each site in coordination with and approved by State and local jurisdictions. ■ Incorporate comments and issues from State and local jurisdictions into the final approved truck haul routes and truck haul operation schedules. 	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction

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<p>TCON-3—Emergency Vehicle Access</p> <p>Emergency vehicle access will be maintained at all times to the construction work site, adjacent businesses, and residential neighborhoods. In addition, emergency vehicle access will be maintained at all times to and from fire stations, hospitals, and medical facilities near the construction sites and along the haul routes. LPA construction activities and haul route operations will be coordinated with local law enforcement representatives and fire department officials during the Final Design phase.</p>	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> – Metro – Metro – Final Design and Construction
<p>TCON-4—Transportation Management Plan</p> <p>Once subway construction sequencing/phasing and the truck haul routes have been concurred upon by Metro and reviewed by local jurisdictions and Caltrans, an overall LPA Transportation Management Plan (TMP) will be developed with and approved by Metro and other appropriate agencies. The TMP will include the following:</p> <ul style="list-style-type: none"> ■ Public information (e.g., media alerts, website) ■ Traveler information (e.g., traffic advisory radio, changeable message signs (CMS)) ■ Incident management (e.g., TMP coordination, tow truck services) ■ Construction (e.g., detour routes, haul routes, mitigation, construction times) ■ Demand management (e.g., carpooling, express bus service, variable work hours, parking management) ■ Coordination with concurrent LPAs <p>The TMP will also address individual and overlapping haul route impacts and will impacts resulting from concurrent and overlapping station(s) and tunnel excavation work.</p>	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>TCON-5—Coordination with Planned Roadway Improvements</p> <p>Construction of the subway and new station locations will be coordinated with local jurisdictions for future programmed projects, such as the Wilshire Bus Rapid Transit Project.</p>	<p>Review and verify plans.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Planning, Final Design and Construction
<p>TCON-6—Temporary Bus Stops and Route Diversions</p>	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro

<p>Construction impacts to local and regional transit operations (e.g., Metro Bus, Santa Monica Big Blue Bus, Culver City Bus, LAX Flyaway, DASH, and UCLA Campus Shuttle) will be mitigated to minimize impacts to the degree possible at each station construction location. Impacts to local and regional transit will be mitigated through, but not be limited to, the use of temporary relocated bus stops and temporary route diversions. Impacts to local and regional transit operations will be coordinated with each transit agency and/or provider. In addition, the Final Design-level mitigation proposals will be approved by the transit agency and/or provider and the local jurisdictions and incorporated into the TMP.</p>			<ul style="list-style-type: none"> ■ Final Design and Construction
<p>TCON-7—Parking Management</p> <p>A parking management program will be developed to minimize impacts due to temporary removal of on- and off-street parking within the construction work zone. The program will incorporate appropriate parking control measures, replacement parking within a reasonable distance from the affected parking locations, if available, or other transportation demand management (TDM) strategies. Development of the parking management program will be coordinated with the appropriate local jurisdictions and affected communities or property owners and be incorporated into the TMP.</p>	<p>Review and verify plans.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>TCON-8—Parking Monitoring and Community Outreach</p> <p>In addition, a parking monitoring and community outreach program will be established during the construction phase of the LPA to monitor on-street parking activity. If a parking shortage is identified during construction, Metro will work with the appropriate local jurisdiction and affected communities or property owners to assess the shortage level and implement mitigation as part of the parking management program.</p>	<p>Report conditions and verify plan.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>TCON-9—Construction Worker Parking</p> <p>Metro will require that all construction contractors identify adequate off-street parking for construction workers at Metro-approved locations. This will occur for each construction site to minimize additional loss of parking. Metro will work with construction contractors on implementation of adequate off-street parking for construction workers.</p>	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>TCON-10—Pedestrian Routes and Access</p>	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro

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<p>Safe pedestrian routes and access will be provided through and/or adjacent to construction work areas. Pedestrian routes and access, including temporary pedestrian facilities, will comply with the requirements of the ADA and must be properly signed and lighted. Special facilities, such as handrails, fences, and walkways, will be provided for pedestrian safety. Temporary pedestrian routes and access concerns will be addressed with, but not limited to, local residents, the VA Hospital, schools, and businesses and approved by the local jurisdiction. Pedestrian routes and access will be monitored and maintained throughout construction.</p>			<ul style="list-style-type: none"> ■ Final Design and Construction
<p>TCON-11—Bicycle Paths and Access</p> <p>Bicycle traffic (e.g., paths, lanes, and routes) will be maintained safely through and adjacent to construction work areas. If bicycle traffic cannot be maintained, then alternative temporary bicycle routes will be identified, signed, and lighted. These alternative routes should be on adjacent streets that can safely accommodate bicycle traffic. Development of these routes will be coordinated with bicycle groups and local jurisdictions. Temporary routes will require approval by the local jurisdiction. Bicycle access will be monitored and maintained throughout construction.</p>	<p>Review and verify plans.</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
<p>Land Use</p>			
<p>No significant impacts will result from the LPA. The LPA will not conflict with applicable land use plans and policies; therefore, no mitigation will be required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>
<p>Socioeconomic Characteristics</p>			
<p>Mitigation: The following measures will be implemented to ensure impacts related to displacements and acquisitions are avoided or further minimized.</p> <p>CN-1—Relocation Assistance and Compensation</p> <p>Metro will provide relocation assistance and compensation for all displaced businesses and residences, as required by both the Uniform Relocation Assistance and Real Property Acquisition Act and the California Relocation Assistance Act. All real property acquired by Metro will be appraised to determine its fair market value. Just compensation, which will not be less than the approved appraisal, will be made to each displaced property owner. Each business and residence displaced as a result of the LPA will be given advance written notice and will be informed of their eligibility for relocation assistance and payments under</p>	<p>Verify compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design

<p>the Uniform Relocation Assistance and Property Acquisition Act. It is anticipated that most businesses will relocate and, as such, most jobs will be relocated and will not be permanently displaced. However, there are permanent job losses anticipated. Metro shall coordinate with the appropriate jurisdictions regarding business relocations.</p>			
<p>CN-2—Propose Joint-use Agreements</p> <p>While employment loss as a result of property acquisitions will not result in an adverse effect, Metro will propose where feasible joint-use agreements for the land it will take for station entrances and construction staging to induce job creation in areas to further reduce the affect any job loss.</p>	<p>Verify coordination with owners</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design
<p>CN-3—Compensation for Easements</p> <p>For easements, Metro will appraise each property to determine the fair market value of the portion that will be used either temporarily during construction or permanently above and below ground. Just compensation, which will not be less than the approved appraisal, will be made to each displaced property owner.</p>	<p>Verify coordination</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design
<p>Environmental Justice</p>			
<p>No disproportionately high and adverse impact to minorities and low-income communities will occur during operation of the Project. Therefore, no additional mitigation measures are required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>
<p>Visual Quality</p>			
<p>Mitigation: While there are no significant impacts, the mitigation measures, as listed below, are incorporated into the LPA and will ensure that impacts related to conflicts between scale and visual character, building removal and right-of-way acquisition, removal of mature vegetation, location of ancillary facilities, and introduction of new sources of light and glare are avoided or minimized.</p> <p>VIS-1—Minimize Visual Clutter</p> <p>To minimize visual clutter, system components should be integrated and the potential for conflicts reduced between the transit system and adjacent communities; design of the system stations and components will follow the recommendations and guidance developed in the urban design analysis conducted for the LPA (Metro 2009d). These guidelines include the following: (1) preserve and enhance the unique cultural identity of each station area and its</p>	<p>Review and integrate guidance in system design</p>	<p>Metro/Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design

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surrounding community by implementing art and landscaping; and (2) promote a sense of place, safety, and walkability by providing street trees, walkways or sidewalks, lighting, awnings, public art, and/or street furniture.			
<p>VIS-2—Replacement for Tree Removal</p> <p>Where mature trees are removed, replacement with landscape amenities of equal value will be incorporated into final designs, where feasible, to enhance visual integrity of the station area.</p>	Have arborist prepare tree removal plan	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Construction
<p>VIS-3—Source Shielding in Exterior Lighting</p> <p>Source shielding in exterior lighting at the maintenance and storage facility will be used to limit spillover light and glare.</p>	Review and verify Final Design plans	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>VIS-4—Integrate Station Designs with Area Redevelopment Plans</p> <p>Station designs will be integrated with area redevelopment plans. The objective is to create a unified visual setting where the station components such as entrances, complement redevelopment plans.</p>	Verify coordination with surrounding communities	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design
Air Quality			
The LPA will not exceed the National Ambient Air Quality Standards, the California Ambient Air Quality Standards, or SCAQMD significance thresholds during operation of the LPA. The LPA is predicted to result in lower emissions of some criteria pollutants; therefore, no mitigation will be required.	N/A	N/A	N/A
Climate Change			
<p>Mitigation: No mitigation is required. However, Metro recognizes that climate change is a serious issue. The following measures will be implemented to further ensure beneficial impacts:</p> <p>CC-1—Implement Pedestrian and Transit-Oriented Development at Stations</p> <p>Metro will continue to promote and support implementation of pedestrian-oriented and transit-oriented development at stations.</p>	Review and integrate where possible into Final Design	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design
<p>CC-2—Energy Conservation</p> <p>Energy conservation will be implemented throughout design and construction.</p>	Review and verify implementation	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before and during Final Design

<p>CC-3—Promote Transit Ridership</p> <p>Metro will continue to promote transit ridership through marketing and educational programs.</p>	<p>Verify implementation of Public Outreach Campaign</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before, during and after Final Design, Construction, and project implementation
<p>CC-4—Green Power</p> <p>Metro will use green power when/where available and priced competitively with other energy sources.</p>	<p>Verify compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>Noise and Vibration</p>			
<p>Mitigation: To mitigate the potential for ground-borne noise impacts to theatre and residential uses above the subway tunnel due to train operation along tangent track and crossover track the following mitigation measures will be included in the final design of the LPA:</p> <p>VIB-1—Use of High Compliance Direct Fixation Resilient Rail Fasteners</p> <p>A high compliance direct fixation resilient rail fasteners will be incorporated into the design of the trackwork at the location listed below, which will reduce ground-borne noise by 5 to 7 dBA:</p> <ul style="list-style-type: none"> ■ Wilshire Ebell Theatre at Site V8 (Figure 4-38) ■ Saban Theatre at Site V25 (Figure 4-38) 	<p>Review and verify plans.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>VIB-2—Use of a Low Impact Crossover</p> <p>A low impact crossover, such as a moveable point frog or a spring-loaded frog, will be used in the design of the following crossover, which will reduce ground-borne noise by 5 to 6 dBA:</p> <ul style="list-style-type: none"> ■ Wilshire/La Brea No. 10 Double Crossover for the apartments at Site V16 (Figure 4-38) 	<p>Review and verify plans.</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p><u>VIB-3—Use of Ground-borne Noise Minimization Techniques</u></p> <p><u>If the distance between the top of rail and the BHHS Building C foundation is less than 40 feet, resilient rail fasteners, floating slab track or other similar technology</u></p>	<p><u>Review and verify plans.</u></p>	<p><u>Metro</u></p>	<ul style="list-style-type: none"> ■ <u>Metro</u> ■ <u>Metro</u> ■ <u>Final Design</u>

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will be incorporated into the project design to reduce ground-borne noise to levels that do not exceed FTA Category 3 ground-borne noise threshold at BHHS Building C.			
Energy			
No significant impacts. LPA conditions decreases system-wide vehicle miles traveled (VMT), which results in less energy consumption as compared to the existing conditions, therefore, no mitigation will be required.	N/A	N/A	N/A
Geologic Hazards			
<p>Mitigation: Construction and design will be performed in accordance with the latest Federal and State seismic and environmental requirements as well as State and local building codes. By compliance with these regulations and requirements, potential impacts from geologic hazards will be minimized. The following measures are also included to further avoid and minimize impacts.</p> <p>GEO-1—Seismic Ground Shaking</p> <p>Metro design criteria require probabilistic seismic hazard analyses (PSHA) to estimate earthquake loads on structures. These analyses take into account the combined effects of all nearby faults to estimate ground shaking. During Final Design, ★ site-specific PSHAs will be used as the basis for evaluating the ground motion levels along the LPA. The structural elements of the LPA will be designed and constructed to resist or accommodate appropriate site-specific estimates of ground loads and distortions imposed by the design earthquakes and conform to Metro’s Design Standards for the Operating and Maximum Design Earthquakes. The concrete structures are designed according to the Building Code Requirements for Structural Concrete (ACI 318) by the American Concrete Institute (ACI 318).</p>	Review and verify plans	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>GEO-2—Fault Crossing Tunnel, Fault Rupture, Tunnel Crossing</p> <p>LPA—Century City Constellation option</p> <p>Design will allow for the tunnels to cross the faults nearly perpendicular to limit the area of potential damage and will use Metro’s two level approach to assess fault offsets and the associated structural design required to accommodate the offset. During Final Design, fault crossings will be designed for the ground conditions at the crossing location and incorporate the methods used to excavate and support the tunnel. Metro design criteria require use of a probabilistic</p>	Verify completion of studies and incorporation of the recommended design measure into Final Design.	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design

<p>approach to determine the Maximum Design Earthquake and Operating Design Earthquake. Design must include the following:</p> <ul style="list-style-type: none"> ■ Prevent collapse of the tunnel to ensure tunnel safety ■ Maintaining structural continuity of tunnel ring ■ Preventing flow of water and soil ■ Establishing the tunnel size to maintain tunnel clearances and provide a guideway for derailed trains to decelerate without impact <p>Several preliminary design approaches or combinations have been considered and will be further developed in Final Design:</p> <ul style="list-style-type: none"> ■ Steel tunnel rings with compressible material between the ring and soil to accommodate movement of the fault ■ Flexible steel linings ■ Articulated joints between tunnel segments for added flexibility ■ Oversized tunnel to allow additional movement and to some extent, more rapid repair after a seismic event. This could also be accomplished using cut and cover methods. 			
<p>GEO-3—Operational Procedures during Earthquake</p> <p>In addition to design measures implemented on the existing Red line, As Metro has implemented on the existing Red line, it will implement Standard Operating Procedures in seismic areas to detect earthquakes and will provide back-up power, lighting, and ventilation systems to increase safety during tunnel or station evacuations in the event of loss of power due to an earthquake. For example, seismographs are located in 11 of the existing Metro Red/Purple Line stations to detect ground motions and trigger Standard Operating Procedures (SOP #8 – Earthquake) by the train operators and controllers. Operating procedures are dependent on the level of earthquake and include stopping or holding trains, gas monitoring, informing passengers, communications with Metro’s Central Control, and inspecting for damage.</p>	<p>Verify safety measures are implemented</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Operations
<p>GEO-4—Liquefaction and Seismic Settlement</p> <p>At liquefaction or seismic settlement prone areas, evaluations by geotechnical engineers will be performed to provide estimates of the magnitude of the anticipated liquefaction or settlement. Based on the magnitude of evaluated liquefaction, a suitable mitigation will be selected, either structural design, or ground improvement (such as deep soil mixing) or deep foundations to non</p>	<p>Review and verify plans</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design

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<p>liquefiable soil (such as drilled piles). Site specific design will be selected based upon the State of California Guidelines design criteria set forth in the <i>Metro Seismic Design Criteria</i>.</p>			
<p>GEO-5— Hazardous Subsurface Gas Operations</p> <p>As with the existing Metro Red and Purple Lines and the Metro Gold Line Eastside Extension, Metro will install gas monitoring and detection systems with alarms, as well as ventilation equipment to dissipate gas to safe levels according to Metro’s current Design Criteria and Cal/OSHA standards for a safe work environment. Measures will include, but are not limited to, the following for both tunnel and station operation:</p> <ul style="list-style-type: none"> ■ High volume ventilation systems with back-up power sources ■ Gas detection systems with alarms ■ Emergency ventilation triggered by the gas detection systems ■ Automatic equipment shut-off ■ Maintenance and operations personnel training. ■ Gas detection instrumentation is set to send alarms to activate ventilation systems and evacuate the structures as follows: Methane gas—Minor alarm at 10 percent of LEL (activate ventilation) and major alarms at 20 percent of LEL (evacuation of area) ■ Hydrogen sulfide—Minor alarm at 8 ppm and major alarm at 10 ppm. 	<p>Review and verify plans</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>GEO-6—Hazardous Subsurface Gas Structural Design</p> <p>Tunnels and stations will be designed to provide a redundant protection system against gas intrusion hazard. The primary protection from hazardous gases during operations is provided by the physical barriers (tunnel and station liner membranes) that keep gas out of tunnels and stations. As with the existing Metro Red and Purple Lines and the Metro Gold Line Eastside Extension, tunnels and stations will be designed to exclude gas to below alarm levels (GEO-5) and include gas monitoring and detection systems with alarms, as well as ventilation equipment to dissipate gas.</p> <ul style="list-style-type: none"> ■ At stations in elevated gassy ground (e.g., Wilshire/Fairfax, construction will be accomplished using slurry walls—or similar methods such as continuous drilled piles—to provide a reduction of gas inflow both during and after construction than would occur with conventional soldier piles and lagging. ■ Other station design concepts to reduce gas and water leakage will use additional barriers, compartmentalized barriers to facilitate leak sealing, and 	<p>Review and verify plans</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design

<p>use of flexible sealants, such as poly-rubber gels, along with the high-density polyethylene-type materials that are used on Metro’s underground stations.</p> <ul style="list-style-type: none"> ■ Consideration of secondary station walls to provide additional barriers or an active system (low or high pressure barrier) will also be studied further to determine if they will be incorporated into the LPA. ■ The evaluations will include laboratory testing programs such as those conducted for the Metro Gold Line Eastside Extension during development of the double gasket system and material testing for long term exposure to the ground conditions for materials such as rubber gaskets used for tunnel segment linings. Testing programs will examine: <ul style="list-style-type: none"> ■ Segment leakage—gasket seal under pressure before, during, and after seismic movements. This will include various gasket materials and profiles (height and width). ■ Gasket material properties—effective life and resistance to deterioration when subjected to man-made and natural contaminants, including methane, asphaltic materials, and hydrogen sulfide. ■ Alternative products to High Density Polyethylene products such as poly-rubber gels, now in use in ground containing methane in other cities. ■ Methods for field testing high-density polyethylene joints. These are now being used for landfill liners and water tunnels under internal water pressure. 			
<p>GEO-7—Tunnel Advisory Panel Design Review</p> <p>The Metro Tunnel Advisory Panel (TAP) will review designs with respect to geologic hazards in areas of identified higher risk. These include the Century City area (seismic risk) and the Fairfax area (gassy ground risk). The TAP will be supplemented, as necessary, by qualified experts in seismic design, gas intrusion and ground contaminant effects on underground structures.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
Hazardous Materials			
<p>Mitigation: In addition to the mitigation measures outlined for geologic hazards, measures to further ensure that any impacts are avoided or minimized for the LPA include the following:</p> <p>HAZ-1—Disposal of Groundwater</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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<p>Disposal of groundwater from underground structures will comply with the City of Los Angeles Industrial Wastewater Permit if there is any contaminated groundwater leakage into final structure.</p>			
<p>HAZ-2—Emergency Response Procedure</p> <p>In the unlikely event of a major hazardous materials release close to or in the vicinity of the LPA, Metro will develop emergency response procedures in conformance with Federal, State, and local regulations.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Operations
Ecosystems/Biological Resources			
No significant impacts will result from the LPA, therefore no mitigation will be required.	N/A	N/A	N/A
Water Quality			
<p>Mitigation: In addition to the standard Best Management Practices (BMPs) and other measures required for compliance with Federal, State, and local requirements, the following measures will be implemented to further ensure that there will be no adverse water quality or hydrology impacts.</p> <p>WQ-1—Drainage Control Plan</p> <p>A drainage control plan will be developed to properly convey drainage from the Study Area and to avoid ponding on adjacent properties. The plan will be developed to assure that the flood capacity of existing drainage or water conveyance features will not be reduced in a way that will cause ponding or flooding during storms.</p>	Verify completion of drainage plan	Contractor	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>WQ-2—Runoff Treatment</p> <p>During operation runoff will be treated using the most appropriate BMP as listed below to further ensure compliance Title III and Title IV of the Clean Water Act and NPDES standards as overseen by the local jurisdictions:</p> <ul style="list-style-type: none"> ■ BMP1: Infiltration basins/trenches—Infiltration basins are surface ponds that capture first-flush stormwater and treat it by allowing it to percolate into the ground and through permeable soils. Infiltration trenches are excavated trenches that have been lined with filter fabric and backfilled with stone to form an underground basin that allows runoff to infiltrate into the soil. As the water percolates through the ground, physical, chemical, and biological processes occur to remove sediments and soluble pollutants. Pollutants are trapped in the upper soil layers and the water is released to groundwater. 	Verify compliance and implementation in final design plans	Metro	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Final Design

<p>Infiltration basins are generally dry except immediately following storms, but a low-flow channel may be necessary if a constant base flow is present.</p> <ul style="list-style-type: none"> ■ BMP2: Porous pavement—Porous pavement can be either asphalt-based pavement or pre-casted permeable concrete pavers. The permeable concrete paver is a preferred feature of the City of Los Angeles’ Green Street Policy. Both concrete pavers and asphalt-based paving material allows stormwater to quickly infiltrate the surface pavement layer to enter into a high-void aggregate sub-base layer. The captured runoff is stored in this “reservoir” layer until it either infiltrates into the underlying soil strata or is routed through an under drain system to a conventional stormwater conveyance system. Porous pavement is typically applicable only in low-traffic areas. ■ BMP3: Vegetated Filter Planters—These are newly adopted bio-parkway or flow-through planters engineered in accordance to the City of Los Angeles’ Green Street Policy. They are planters with selected vegetations and engineered soils to treat and filter storm-water from street and / or roof runoff. The design storm First-Flush polluted storm-water will be treated and filtered. At large storm events, clean storm-water will be by-passed to normal drainage facilities. These devices are most suitable to urban environment such as the current LPA corridor. 			
Safety and Security			
<p>Mitigation: These measures further describe those Metro currently uses or will implement to further ensure that there are no adverse impacts.</p> <p>SS-1—Passenger Safety I Implement public safety awareness and employee training program.</p>	Verify coordination and Public Outreach	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior operations
<p>SS-2—Passenger Safety II Develop and implement a project-specific safety certification plan that will result in safety certification of all certifiable project elements</p>	Verify compliance and implementation in Final Design Plans	Metro	<ul style="list-style-type: none"> ■ City of Los Angeles ■ Metro ■ Final Design/Project Implementation
<p>SS-3—Construction Safety Implement a Construction Safety and Security Plan which includes safety rules, procedures, and policies to protect workers and work sites during construction such as warning and/or notification signs, detours, and barriers and includes compliance with OSHA standards</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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<p>SS-4—Fire Protection and Safety</p> <p>Design in accordance with Metro fire/life safety criteria, CBC, and other applicable Federal, State, and local rules and regulations.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>SS-5—Methane and Hydrogen Sulfide Gas Leak Protection</p> <p>Design in accordance with Metro Fire/Life safety criteria, Metro ventilation criteria, and according to the findings in the <i>Westside Subway Extension Geotechnical and Hazardous Materials Technical Report</i> (Metro 2010i) and with special design, construction and operational attention to the gassy ground tunnels and stations.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>SS-6—Security Preventing Criminal Activity</p> <p>Incorporate security features, including lighting, communication devices (e.g., passenger telephones), closed circuit television, signs and other design features, and law enforcement officers to reduce criminal activities.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>SS-7—Security Preventing Terrorist Attacks</p> <p>Implementation of security features, including security education and employee training specific to terrorism awareness, lighting, communication devices (e.g., passenger telephones), closed circuit television, signs and other design features to reduce terrorism activities.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Project Implementation
<p>SS-8—Emergency Response</p> <p>Development and implementation of a comprehensive emergency preparedness plan, employee and emergency responders training, and system design features.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Project Implementation
<p>Parklands and Community Facilities</p>			
<p>Mitigation: The following measure will be incorporated into the LPA to ensure impacts related to displacements and acquisitions are avoided or further minimized.</p> <p>CN-1—Relocation Assistance and Compensation</p> <p>Metro will provide relocation assistance and compensation for all displaced businesses and residences, as required by both the Uniform Relocation Assistance and Real Property Acquisition Act and the California Relocation Assistance Act. All real property acquired by Metro will be appraised to determine</p>	Verify Compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Before Final Design

<p>its fair market value. Just compensation, which will not be less than the approved appraisal, will be made to each displaced property owner. Each business and residence displaced as a result of the LPA will be given advance written notice and will be informed of their eligibility for relocation assistance and payments under the Uniform Relocation Assistance and Property Acquisition Act. It is anticipated that most businesses will relocate and, as such, most jobs will be relocated and will not be permanently displaced. However, there are permanent job losses anticipated. Metro shall coordinate with the appropriate jurisdictions regarding business relocations.</p>			
Historic, Archeological, and Paleontological Resources			
<p>Mitigation: For the properties that have a determination of No Adverse Effect, implementation of mitigation measure HR-1 will further ensure avoidance of adverse effects to the historic properties. In addition, implementation of mitigation measure HR-4 will ensure that inadvertent direct construction-related impacts to built historic properties within the APE do not alter the materials, features, or finishes that are important to the integrity of the property.</p> <p>Implementation of mitigation measure (AR-1) will reduce construction impacts to undocumented archaeological resources, including human remains.</p> <p>Implementation of the mitigation measures (PA-1) will substantially reduce the impacts to paleontological resources. During construction, implementation of mitigation measures (PA-2 through PA-7) would further reduce impacts to undocumented paleontological resources.</p> <p>HR-1—Treatment to Avoid Adverse Effects</p> <p>Design Phase Planning. The project would be designed in adherence to the <i>Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Rehabilitating Historic Buildings</i> and the <i>Guidelines for the Treatment of Cultural Landscapes</i> at the following four historic properties that will be altered by either construction staging activities or station entrances to ensure there is no adverse effect to these properties:</p> <ul style="list-style-type: none"> ■ LACMA West May Company – WSE 24 (6067 Wilshire Boulevard) ■ Union Bank Building—WSE 14 (9460 Wilshire Boulevard) ■ Linde (Westwood) Medical Plaza - WSE 10 (10921 Wilshire Boulevard) 	<p>Verify compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction

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<ul style="list-style-type: none"> ■ VA Medical Center Historic District—WSE 41 (11301 Wilshire Boulevard) including the Wadsworth Theater and Contributing Landscape Elements <p>Designs will ensure the preservation of the character-defining features of the historic properties, and would avoid damaging or destroying materials, features, or finishes that are important to the property, while also considering economic and technical feasibility. Metro will ensure that the SHPO has opportunity to review the design by the architectural historian.</p> <p>Design Review and Monitoring. Metro will retain the services of a qualified historic preservation consultant with experience in architectural preservation to review structural designs and construction activities, and will require onsite periodic construction monitoring by a historic preservation consultant to ensure protection of historic fabric and compliance with approved designs and the <i>Secretary of the Interior's Standards for the Rehabilitation of Historic Properties</i>.</p>			
<p>HR-2—Treatment to Resolve Adverse Effect</p> <p>HABS/HAER Documentation—The adverse effects of the Undertaking on the Ace Gallery will be resolved by FTA by requiring Metro to implement and complete National Park Service Historic American Building Survey (HABS) or Historic American Engineering Record (HAER) documentation, pursuant to Section 110(b) of the National Historic Preservation Act for the adversely-affected property. Prior to any action, the photo-recordation and documentation consistent with the standards of the National Park Service HABS or HAER will be prepared by a Secretary of Interior qualified professional architectural historian or historic architect. Whenever possible, HABS/HAER documentation Level 2 would be employed whenever measured drawings for a property are available. If measured drawings are not available, HABS/HAER documentation Level 1 would be employed.</p> <p>The HABS/HAER documentation will be forwarded by the Metro to the FTA and SHPO for review. The FTA, in consultation with Metro and SHPO, will approve the materials and permit Metro to proceed with demolition of the adversely-affected property.</p> <p>Following approval of the HABS/HAER documentation, Metro will ensure that the materials are placed on file with Metro and Responsible Agencies, historical societies and preservation groups, local university and community libraries, and</p>	Verify Compliance	Metro	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction

<p>other appropriate national and local repositories and archives, as identified by Metro.</p> <p>Public Website Development—In connection with HABS/HAER documentation, Metro will develop a public website linked to Metro’s website concerning the history of the Ace Gallery. The website would be based on the photographs produced as part of the HABS/HAER documentation, and historic archival research previously prepared as part of the Undertaking and historic documentation. A public website, which provides historic and documentary information regarding historic properties that would be substantially altered or demolished as a result of the Undertaking, will be prepared and maintained for a ten-year period.</p>			
<p>HR-3—Construction Starting Beyond 2019</p> <p>For those portions of the APE in which construction would start beyond 2019, Metro would retain the services of a Secretary of Interior professional qualified architectural historian to complete an updated historic property survey and evaluation to ensure that construction of the LPA would have no effect on eligible historic properties built after 1968 not previously inventoried during preparation of the Draft EIS/EIR or the Final EIS/EIR for the LPA. A draft and final report on the results of the survey and evaluation would be submitted to Metro, FTA, SHPO, and other signatories to the Memorandum of Agreement for review and approval prior to initiation of any beyond-2019 ground-disturbing activities within the APE for the LPA. The final report would be placed on file with Metro and Responsible Agencies, the South Central Coastal Information Center, and other appropriate local repositories identified by Metro within three months after the work has been completed.</p> <p>If any of the newly inventoried built resources are determined to be eligible historic resources and may be adversely affected by the LPA, the FTA, with the assistance of Metro, shall review and approve appropriate mitigation measures, which shall be devised by Metro in concert with a qualified architectural historian. To the extent feasible, treatment to avoid and minimize adverse effects shall follow Mitigation Measure HR-1. In the event activities associated with the LPA cannot be implemented in a manner which meets adherence to Secretary of the Interior’s Standards under HR-1, then the treatment described in Mitigation Measures HR-2 or other treatment appropriate to the specific resource(s) would be implemented.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction

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<p>PA-1—Memorandum of Understanding</p> <p>Metro will implement the Memorandum of Understanding with the George C. Page Museum of La Brea Discoveries regarding treatment of paleontological resources from asphaltic deposits.</p>	<p>Verify compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Final Design
Construction (Archaeological, Historic and Paleontological Resources)			
<p>Mitigation: The Memorandum of Agreement (MOA) sets forth measures to be implemented to reduce potential construction impacts within the APE to known archaeological historic properties and to undocumented archaeological resources, including human remains. For additional details refer to the MOA found in Appendix D. Implementation of the following measures will reduce impacts to archeological resources:</p> <p>For the property that has a determination of No Adverse Effect, implementation of mitigation measure HR-1 will further ensure avoidance of adverse effects to the historic properties. In addition, implementation of mitigation measure HR-4 will ensure that inadvertent direct construction-related impacts to built historic properties within the APE do not alter the materials, features, or finishes that are important to the integrity of the property.</p> <p>Even with implementation of this mitigation measure, construction of the LPA will result in an unavoidable and significant impact to a historic resource at the Wilshire/Rodeo Station to accommodate construction staging activities.</p> <p>AR-1—Unanticipated Discoveries and Consultation with Native American Individuals, Tribes and Organizations and Treatment of Cultural Remains and Artifacts</p> <p>If previous unidentified cultural resources, including human remains, are encountered during construction or earth-disturbing activities, all activities at that location shall be halted until a qualified archaeologist can examine the resources and assess their significance. If the resources are determined to be significant, Metro will notify FTA and SHPO within 48 hours of the discovery to determine the appropriate course of action.</p> <p>For resources determined eligible or assumed to be eligible for the NRHP by FTA, Metro will notify the FTA, ACHP, and SHPO of those actions that it proposes to avoid, minimize, or mitigate adverse effects. Consulting parties will have 48 hours</p>	<p>Verify compliance with mitigation monitoring plan</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction

<p>to provide their views on the proposed actions. The FTA will ensure that timely-filed recommendations of consulting parties are taken into account prior to granting approval of the measures that the Metro will implement to resolve adverse effects. Metro will carry out the approved measures prior to resuming construction activities in the location of the discovery.</p> <p>Metro will ensure that the expressed wishes of Native American individuals, tribes, and organizations are taken into consideration when decisions are made regarding the disposition of other Native American archaeological materials and records relating to Indian tribes.</p> <p>Should Indian burials and related items be discovered during construction of the project, Metro will consult with the affected Native American individuals, tribes and organization regarding the treatment of cultural remains and artifacts. These will be treated in accordance with the requirements of the California Health and Safety Code. If the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with the provisions of §§ 5097.98 (a) - (d) of the California Public Resources Code which provides for the notification of discovery of Native American human remains, descendants; disposition of human remains and associated grave goods.</p>			
<p>HR-4—Geotechnical Pre-Construction Survey and Historic Land-scape Protection</p> <p>Geotechnical Investigations. For historic properties, further geotechnical investigations will be undertaken to evaluate soil, groundwater, seismic, and environmental conditions along the alignment. This analysis will assist in the development of appropriate support mechanisms and measures for cut and fill construction areas. The subsurface investigation will also identify areas that could cause differential settlement as a result of using a tunnel boring machine (TBM) in close proximity to historic properties. An architectural historian or historical architect who meets the Secretary of the Interior’s Professional Qualification Standards (36 CFR Part 61) will provide input and review of final design documents prior to implementation of the mechanisms and measures. The review will evaluate whether the geotechnical investigations and support measures for cut and fill, and measures to prevent differential settlement meet the Secretary of the Interior’s <i>Standards for the Treatment of Historic Properties</i>. The evaluation of measures will be forwarded by Metro to the FTA and SHPO for</p>	<p>Hire a qualified historic preservation consultant</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction

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<p>review. Then FTA, in consultation with SHPO, upon the SHPO’s concurrence, shall approve the evaluation and permit Metro to proceed with construction.</p> <p>Historic District Contributing Historic Landscape Element Pre-Construction Survey. Metro will develop a survey of the contributing landscape elements of the VA Medical Center Historic District located within 20 feet of the Westwood/VA Hospital North and South Station portal-related cut-and-cover and construction staging areas during Final Design. The survey will be prepared by a qualified architectural historian and historic landscape architect and/or qualified arborist with the assistance of a technician/surveyor using high-resolution GPS equipment. The survey will establish an inventory of each mature historic tree species and the precise location of each individual tree in the survey area. The inventory survey will also assess the feasibility of temporarily removing and then replanting the extant trees in their original location, including how the trees should be moved and temporarily stored.</p> <p>A report on the results of the inventory will be submitted to FTA, Metro, and SHPO for review and will be placed on file with Metro.</p> <p>Historic District Contributing Historic Landscape Element Landscape Protection Measures. The results of the pre-construction survey will be used for marking trees to be avoided during construction, for implementation of relocation recommendations as necessary if avoidance of any of the trees is infeasible, and for onsite use during construction activities to ensure the historic trees remaining in place are protected.</p> <p>Should any trees that are temporarily removed not survive a reasonable period after they are replanted, as determined by a qualified arborist, Metro will obtain and plant adult-aged replacement trees of the same species to rehabilitate the historic landscape.</p> <p>Historic District Contributing Historic Landscape Element Construction Monitoring. Metro will retain the services of a qualified historic preservation consultant with experience in the preservation of historic landscapes. The consultant will review the existing landscape designs and proposed construction activities, and develop a plan for onsite periodic construction monitoring to ensure protection of historic fabric and compliance with the <i>Guidelines for the Treatment of Cultural Landscapes</i>.</p>			
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<p>PA-2—Early Fossil Recovery</p> <p>Metro will seek early approval to begin fossil recovery in advance of construction if feasible.</p>	<p>Seek early approval from California Department of Parks and Recreation Office of Historic Preservation</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Prior to construction
<p>PA-3—Retain the Services of a Qualified Principal Paleontologist</p> <p>Metro will retain the services of a qualified principal paleontologist (minimum of graduate degree, 10 years of experience as a principal investigator and specialty in vertebrate paleontology) to oversee execution of mitigation measures.</p>	<p>Verify compliance and completion of monitoring report</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction
<p>PA-4—Development of a Paleontological Resources Monitoring and Mitigation Plan (PRMMP)</p> <p>Metro’s qualified principal paleontologist will develop a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) acceptable to the collections manager of the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County and the collection manager of the Page Museum of La Brea Discoveries. Metro will implement the PRMMP during construction. The plan will clearly demarcate the areas to be monitored and specify criteria. At the completion of paleontological monitoring for the LPA, a paleontological resources monitoring report will be prepared and submitted to the Page Museum of La Brea Discoveries and the Natural History Museum of Los Angeles County to document the results of the monitoring activities and summarize the results of any paleontological resources encountered.</p>	<p>Verify completion of PRMMP and compliance with PRMMP</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction
<p>PA-5—Required Activities for Recovered Fossils in the PRMMP</p> <p>The PRMMP will include specifications for processing, stabilizing, identifying, and cataloging any fossils recovered on the LPA. For any tar pit deposits encountered, this will include chemical removal of asphalt from matrix and specimens. Cleaned matrix will require microscopic examination for small fossils, including invertebrates and plants, by a qualified paleontologist.</p>	<p>Verify compliance with PRMMP</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro

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			<ul style="list-style-type: none"> ■ Construction
<p>PA-6—Preparation of a Report on Paleontological Resources Recovered</p> <p>Metro’s qualified principal paleontologist will prepare a report detailing the paleontological resources recovered, their significance, and arrangements made for their curation at the conclusion of the monitoring effort.</p>	Verify report has been prepared	Metro	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction
<p>PA-7—Curation of Identified and Prepared Fossils</p> <p>Metro will provide the resources necessary to curate the identified and prepared fossils as specified in the Memorandum of Understanding between Metro, FTA, and the George C. Page Museum of Rancho La Brea Discoveries. Those fossils recovered from asphaltic deposits will be curated at the George C. Page Museum. All other fossils will be curated at the Natural History Museum of Los Angeles County.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ California Department of Parks and Recreation Office of Historic Preservation ■ Metro ■ Construction
Growth Inducing			
No significant impacts, therefore, no mitigation will be required.	N/A	N/A	N/A
Cumulative Impacts			
<p>Mitigation: The implementation of mitigation measures T-1, T-2, T-3, and T-4 will help reduce the magnitude of parking impacts.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Prior to Construction
Construction (Land Use)			
<p>Mitigation: Implementation of mitigation measures TCON-1, TCON-10 and TCON-11 will further ensure that traffic and pedestrian circulation and access will be maintained throughout construction.</p>	Review and verify plans.	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design and Construction
Construction (Community and Neighborhoods)			
CON-1—Signage	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro

<p>Signage to indicate accessibility to businesses will be used in the vicinity of construction activity.</p> <p>In addition, implementation of mitigation measures TCON-1, TCON-2, TCON-3, TCON-4, TCON-7, TCON-8, TCON-10 and TCON-11 will reduce construction impacts to communities and neighborhoods.</p>			<ul style="list-style-type: none"> ■ Metro ■ Construction
Construction (Environmental Justice)			
<p>Construction will not result in disproportionate adverse impacts to environmental justice communities. No additional measures will be required</p>	N/A	N/A	N/A
Construction (Visual and Aesthetics)			
<p>Mitigation: To ensure impacts related to construction activities are minimized, the following mitigation measures will be implemented:</p> <p>CON-2—Timely Removal of Erosion-Control Devices</p> <p>Visually obtrusive erosion-control devices, such as silt fences, plastic ground cover, and straw bales, will be removed as soon as the area is stabilized.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-3—Location of Construction Materials</p> <p>Stockpile areas will be located in less visibly sensitive areas and, whenever possible, not be visible from the road or to residents and businesses. Limits on heights of excavated materials will be developed during design based on the specific area available for storage of material and visual impact.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-4—Construction Lighting</p> <p>Lighting will be directed toward the interior of the construction staging area and be shielded so that it will not spill over into adjacent residential areas or outdoor areas that are used at night such as cafes, plazas, and other gathering areas where users may stay for an extended period of time and is integral to the enjoyment of the land use. In addition, temporary sound walls of Metro approved design will be installed at station and work areas. These will block direct light and views of the construction areas from residences.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-5—Screening of Construction Staging Areas</p> <p>Construction staging areas will be screened where possible, to reduce visual effects on adjacent viewers</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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Construction (Air Quality)			
<p>Mitigation: These mitigation measures will help to reduce air quality particulate matter impacts, but it is unlikely—given the current construction plan—that these levels, especially NO, will be below the SCAQMD threshold during construction. Therefore, adverse effects will remain after mitigation.</p> <p>CON-6—Meet Mine Safety (MSHA) Standards Tunnel locomotives (hauling spoils and other equipment to the tunnel heading) will be approved by Metro to meet mine safety (MSHA) standards.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-7—Meet SCAQMD Standards Metro and its contractors will set and maintain work equipment and standards to meet SCAQMD standards, including NOx.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-8—Monitoring and Recording of Air Quality at Worksites Monitoring and recording of air quality at the worksites will be conducted. In areas of gassy soil conditions (Wilshire/La Brea and Wilshire/Fairfax work sites), air quality will be continuously monitored and recorded. Construction will be altered as required to maintain a safe working atmosphere. The working environment will be kept in compliance with Federal, State, and local regulations, including SCAQMD and Cal/OSHA standards.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-9—No Idling of Heavy Equipment Metro specifications will require that contractors not unnecessarily idle heavy equipment.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-10—Maintenance of Construction Equipment Metro will require its contractors to maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies. Metro will also require periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-11—Prohibit Tampering of Equipment</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro

<p>Metro will prohibit its contractors from tampering with engines and require continuing adherence to manufacturer’s recommendations.</p>			<ul style="list-style-type: none"> ■ Construction
<p>CON-12—Use of Best Available Emissions Control Technologies Metro will encourage its contractors to lease new, clean equipment meeting the most stringent of applicable Federal or State standards (e.g., Tier 3 or greater engine standards) or best available emissions control technologies on all equipment.</p>	<p>Verify compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-13—Placement of Construction Equipment Construction equipment and staging zones will be located away from sensitive receptors and fresh air intakes to buildings and air conditioners. In addition, equipment will be placed to minimize dust and exhaust away from outdoor areas where feasible. Refinements to construction mitigation measures may be incorporated during the Final Design phase, prior to the preparation of construction bid documents.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-14—Measures to Reduce the Predicted PM₁₀ Levels Mitigation measures such as watering, the use of soil stabilizers, etc. will be applied to reduce the predicted PM₁₀ levels to below the SCAQMD daily construction threshold levels. A watering schedule will be established to prevent soil stockpiles from drying out.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-15—Reduce Street Debris At truck exit areas, wheel washing equipment will be installed to prevent soil from being tracked onto city streets, and followed by street sweeping as required to clean streets.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-16—Dust Control During Transport Trucks will be covered to control dust during transport of spoils.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-17—Fugitive Dust Control To control fugitive dust, wind fencing and phase grading operations, where appropriate, will be implemented along with the use of water trucks for stabilization of surfaces under windy conditions.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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<p>CON-18—Street Watering</p> <p>Surrounding streets at construction sites will be watered by trucks as needed to eliminate air-borne dust. In keeping with Metro’s prior policy on the Eastside Gold Line, the contractor will water streets in the station area impacted by dust not less than once a day and more often if needed.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-19—Spillage Prevention for Non-Earthmoving Equipment</p> <p>Provisions will be made to prevent spillage when hauling materials and operating non-earthmoving equipment. Additionally, speed will be limited to 15 mph for these activities at construction sites.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-20—Spillage Prevention for Earthmoving Equipment</p> <p>Provisions will be made to prevent spillage when hauling materials and operating earth-moving equipment. Additionally, speed will be limited to 10 mph for these activities at construction sites.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-21—Additional Controls to Reduce Emissions</p> <p>EPA-registered particulate traps and other appropriate controls will be used where suitable to reduce emissions of particulate matter and other pollutants at the construction site.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-90 – Air Quality Monitoring<u>AERMOD Verification</u></p> <p>The estimated maximum localized pollutant levels are based on a series of assumptions made about Contractor’s equipment and schedule. Modeling will be updated using the actual equipment and schedule proposed by the contractor. Based on the results of the modeled analysis, the contractor will be mandated to alter operating procedures/schedule/equipment if a violation of the applicable standards is predicted. Contractor will be required to keep a log of construction equipment used during construction along with hours of operation of each specific piece of equipment to ensure that construction activities are not in violation of applicable air quality standards. A construction phase ambient air quality monitoring program will be implemented to ensure that construction activities will not violate applicable air quality standards. The monitoring sites will be located at sensitive receptors surrounding the Century City Constellation construction staging areas. The program will monitor NO2 and PM levels at these sensitive receptors throughout the duration of construction activities. If an</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

<p>exceedance of NAAQS or CAAQS standards is detected, construction activities will be modified to reduce emissions below these standards</p>			
Construction (Climate Change)			
<p>Mitigation: Implementation of air quality mitigation measures CON-6 through CON-13 will further reduce climate change impacts due to construction.</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
Construction (Noise and Vibration)			
<p>Mitigation: Noise impacts from construction of the LPA will require mitigation to meet the Los Angeles CEQA noise thresholds, the Metro specified limits, and the noise ordinances for Los Angeles County and the cities of Los Angeles and Beverly Hills. The final determination of construction noise impacts will depend on the equipment and activities used by the contractor to construct the LPA. Since this information on means and methods of construction is not available now, noise mitigation is presented as typical noise-control measures that have been used on other similar construction projects. Metro Baseline Specifications Section 01565, Construction Noise and Vibration Control, require that the contractor shall, among other provisions:</p> <p>CON-22—Hire or Retain the Services of an Acoustical Engineer</p> <p style="padding-left: 20px;">Hire or retain the services of an Acoustical Engineer to be responsible for preparing and overseeing the implementation of the Noise Control and Monitoring Plans. Noise Control and Monitoring Plan will ensure that noise levels are at or below criteria levels in Metro Baseline Specifications Section 01565, Construction Noise and Vibration Control.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-23—Prepare a Noise Control Plan</p> <p style="padding-left: 20px;">Prepare a Noise Control Plan that includes an inventory of construction equipment used during daytime and nighttime hours, an estimate of projected construction noise levels, and locations and types of noise abatement measures that may be required to meet the noise limits specified in the Noise Control and Monitoring Plan.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-24—Comply with the Provisions of the Nighttime Noise Variance</p> <p style="padding-left: 20px;">In the case of nighttime construction, the contractor will comply with the provisions of the nighttime noise variance issued by local jurisdictions. The variance processes for the Cities of Los Angeles and Beverly Hills and the County</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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<p>of Los Angeles require the applicant to provide a noise mitigation plan and to hold additional public meetings before granting the variance to allow work that would be performed outside of the permitted working hours.</p>			
<p>CON-25—Noise Monitoring Conduct periodic noise measurement in accordance with an approved Noise Monitoring Plan, specifying monitoring locations, equipment, procedures, and schedule of measurements and reporting methods to be used.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-26—Use of Specific Construction Equipment At night, use only construction equipment operating at the surface of the construction site under full load, are certified to meet specified lower noise level limits set in the Noise Control Plan, and specified in the noise variance application.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-27—Noise Barrier Walls for Nighttime Construction Where nighttime construction activities are expected to occur, erect Metro-designed noise barrier walls at each construction site prior to the start of construction activities. Barriers should be designed to reduce construction site noise levels by at least 5 dBA.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-28—Comply with Local Noise Ordinances The LPA will comply as applicable with the City of Los Angeles, City of Beverly Hills, and County of Los Angeles noise ordinances during construction hours. Compliance with City of Los Angeles, City of Beverly Hills, and County of Los Angeles standards for short-term operation of mobile equipment and long-term construction operations of stationary equipment, including noise levels and hours of operation, also will occur. Hours of construction activity will be varied to meet special circumstances and restrictions. Municipal and building codes of each city in the Study Area include restrictions on construction hours. The City of Los Angeles limits construction activity to 8 a.m. to 6 p.m. on Monday through Friday and 9 a.m. to 5 p.m. on Saturdays, with no construction on Sundays and Federal holidays. The City of Beverly Hills identifies general construction hours of 8:00 a.m. to 6:00 p.m. from Monday through Saturday. For all the cities in the Study Area, construction is prohibited on Sundays and city holidays. Construction outside of these working periods will require a variance from the applicable city. The variance processes for the Cities of Los Angeles and Beverly Hills and the</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ City of Los Angeles ■ City of Beverly Hills ■ City of Santa Monica ■ City of West Hollywood, and County of Los Angeles ■ Metro ■ Construction

County of Los Angeles require the applicant to provide a noise mitigation plan and hold additional public meeting,			
CON-29—Signage Readily visible signs indicating “Noise Control Zone” will be prepared and posted on or near construction equipment operating close to sensitive noise sites.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-30—Use of Noise Control Devices Noise-control devices that meet original specifications and performance will be used.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Project implementation
CON-31—Use of Fixed Noise-Producing Equipment for Compliance Fixed noise-producing equipment will be used to comply with regulations in the course of LPA-related construction activity.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-32—Use of Mobile or Fixed Noise-Producing Equipment Mobile or fixed noise-producing construction equipment that are equipped to operate within noise levels will be used to the extent practical.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-33—Use of Electrically Powered Equipment Electrically powered equipment will be used to the extent practical.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-34—Use of Temporary Noise Barriers and Sound-Control Curtains Temporary noise barriers and sound-control curtains will be erected where LPA-related construction activity is unavoidably close to noise-sensitive receivers.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-35—Distance from Noise-Sensitive Receivers Within each construction area, earth-moving equipment, fixed noise-generating equipment, stockpiles, staging areas, and other noise-producing operations will be located as far as practicable from noise-sensitive receivers.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-36—Limited Use of Horns, Whistles, Alarms, and Bells Use of horns, whistles, alarms, and bells will be limited for use as warning devices, as required for safety.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction/Project Implementation

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<p>CON-37—Requirements on Project Equipment</p> <p>All noise-producing project equipment, including vehicles that use internal combustion engines, will be required to be equipped with mufflers and air-inlet silencers, where appropriate, and kept in good operating condition that meets or exceeds original factory specifications. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise-control features that are readily available for that type of equipment.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-38—Limited Audibility of Project Related Public Addresses or Music</p> <p>Any LPA-related public address or music system will not be audible at any adjacent sensitive receiver.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-39—Use of Haul Routes with the Least Overall Noise Impact</p> <p>To the extent practical, based on traffic flow, designated haul routes for construction-related traffic will be used based on the least overall noise impact. For example, heavily loaded trucks will be routed away from residential streets if possible. Where no alternatives are available, haul routes will take into consideration streets with the fewest noise-sensitive receivers.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-40—Designated Parking Areas for Construction-Related Traffic</p> <p>Non-noise-sensitive designated parking areas for LPA-related traffic will be used.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-41—Enclosures for Fixed Equipment</p> <p>Enclosures for fixed equipment, such as TBM slurry processing plants, will be required to reduce noise.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p><u>CON-91 – Construction Noise Minimization at Medical Rehabilitation Facility</u></p> <p><u>If needed to comply with City of Los Angeles noise ordinances nighttime noise limits at the medical rehabilitation facility, the following noise-control measures or similar approaches will be used in Area 3:</u></p> <ul style="list-style-type: none"> ■ <u>Fully enclose the compressor plant, ventilation plant, grout plant, foam plant, machine shop, and electrical shop. Enclose the conveyor system.</u> ■ <u>All equipment used from 9 p.m. to 7 a.m. Monday through Friday, 6 p.m. to 8 a.m. Saturdays, and anytime on Sunday including boom crane and front-end loader shall be low emission equipment as required by Metro</u> 	<u>Verify compliance</u>	<u>Contractor</u>	<ul style="list-style-type: none"> ■ <u>Metro</u> ■ <u>Metro</u> ■ <u>Construction</u>

<p><u>Specification Section 01 56 19, Construction Noise and Vibration Control, Parts 3.01 and 3.04, and Table 4.</u></p> <ul style="list-style-type: none"> ■ <u>Retrofit the boom crane and front end loader to be used during nighttime (9 p.m. to 7 a.m. Monday through Friday, 6 p.m. to 8 a.m. Saturdays, and anytime on Sunday) operations with a hospital-grade muffler and additional damping and insulation added to the engine compartments.</u> ■ <u>Install an additional 16-foot noise barrier wall within the interior of Area 3 to further shield noise from the front-end loader and crane operations.</u> 			
<p><u>CON-92 – Additional Noise Control Measures</u></p> <p><u>If needed to comply with City of Los Angeles or City of Beverly Hills noise ordinances at the Century City Constellation Station construction sites, the Contractor shall be responsible for providing additional noise control measures and/or limiting the equipment and construction activities to reduce the construction noise at these sites to comply with the noise level limits by implementing the following or similar measures:</u></p> <ul style="list-style-type: none"> ■ <u>Moveable noise barriers that can be located within the construction site in close proximity to the equipment and activities that are exceeded the impact thresholds. The moveable noise barriers shall be constructed in accordance with Metro’s Specification Section 01 56 19, Construction Noise and Vibration Control, Article 2.03, Moveable Noise Barriers. The height of the moveable noise barrier shall be a minimum of 14 feet.</u> ■ <u>Noise control curtains that can be tented over the area where the noisy equipment is operating. The noise curtain shall be constructed in accordance with Metro’s Specification Section 01 56 19, Construction Noise and Vibration Control, Article 2.04, Noise Control Curtains</u> ■ <u>Replacing the standard engine exhaust muffler with a hospital grade engine silencer for stationary cranes, front end loaders, dozers, and any other diesel powered equipment operating during nighttime hours.</u> 	<p><u>Verify compliance</u></p>	<p><u>Contractor</u></p>	<ul style="list-style-type: none"> ■ <u>Metro</u> ■ <u>Metro</u> ■ <u>Construction</u>

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<p><u>CON-93 – Backup Alarms</u></p> <p>All equipment operating during nighttime hours at all construction sites shall use low impact backup alarms. The low impact back-up alarms shall comply with CCR Title 8, Section 1592, Warning Methods. For equipment that must comply with CCR Title 8, Section 1592(a), equip these vehicles with compliant white sound, broadband and multi-frequency type back-up alarm devices. For equipment subject to the requirements of CCR Title 8, Section 1592(b) the Contractor may choose to equip with automatic back-up audible alarms. Such alarms shall only be of a compliant white sound, broadband or multi-frequency back-up alarm type device.</p> <p>The compliant white sound, broadband and multi-frequency type back-up alarm device shall be a self-adjusting, “smart” reversing, alarm that continually adjusts to 5 dB above ambient. Acceptable manufacturers are Brigade, ECCO or approved equal. The compliant white sound, broadband and multi-frequency type back-up alarm device shall be rated as medium duty or heavy duty, as the field conditions and/or usage would dictate.</p>	<p><u>Verify compliance</u></p>	<p><u>Contractor</u></p>	<p>■ <u>Metro</u> ■ <u>Metro</u> ■ <u>Construction</u></p>
<p><u>CON-94 – Haul Truck Noise Emission Limits</u></p> <p>Limit trucks operating off-site between the hours of 12:00 midnight and 5:00 AM to the extent feasible. Trucks that must operate during these hours should be fitted with equipment such as high grade engine exhaust silences and engine casing sound insulation or other equivalent devices.</p>	<p><u>Verify compliance</u></p>	<p><u>Contractor</u></p>	<p>■ <u>Metro</u> ■ <u>Metro</u> ■ <u>Construction</u></p>
<p><u>CON-95 – Vibration Control for Tunnel Train</u></p> <p>If ground-borne noise limits or ground-borne vibration limits are exceeded, the contractor will be required to take action to reduce noise and/or vibrations to acceptable levels. Such action could include: 1. A durable resilient system to support the tunnel train tracks. Such as system would include: a. Resilient mat under the tracks b. A resilient grommet or bushing under the heads of any track fasteners. 2. The hardness of the resilient mat should be in the 40 to 50 durometer range and be about 1 to 2” thick, depending on how heavily loaded the cars would be. 3. The Contractor shall select the mat thickness so that the rail</p>	<p><u>Verify compliance</u></p>	<p><u>Contractor</u></p>	<p>■ <u>Metro</u> ■ <u>Metro</u> ■ <u>Construction</u></p>

<p><u>doesn't bottom out during a train pass by. 4. Reduce the speed of the tunnel trains. 5. Maintain the tunnel train track and train wheels in good order to reduce potential vibration impacts, including keeping gaps between track sections to a minimum and frequent maintenance to avoid wheel flats.</u></p>			
<p><u>CON-96 – Vibration Monitoring Plan</u></p> <p><u>The Contractor is required to submit a Vibration Monitoring Plan prepared, stamped, and administered by the Contractor's Acoustical Engineer. As part of the implementation of this plan, vibration monitoring will be performed at the historic Sterling Plaza/Bank of California, Union Bank Building, and AAA Building closest to the locations where equipment and/or construction activities generate a substantial amount of ground-borne vibration. Vibration monitoring will consist of continuous measurements at the building façade closest to the construction activities. All vibration monitors used will be equipped with an “alarm” feature to provide notification if the 0.2 PPV vibration damage risk threshold has been approached or exceeded.</u></p> <p>The Contractor is required to submit a Vibration Monitoring Plan prepared, stamped, and administered by the Contractor's Acoustical Engineer. As part of the implementation of this plan, vibration monitoring will be performed at the AAA Building closest to the locations where equipment and/or construction activities generate a substantial amount of ground-borne vibration. Vibration monitoring will consist of continuous measurements at the building façade closest to the construction activities. All vibration monitors used will be equipped with an “alarm” feature to provide notification if the 0.2 PPV vibration damage risk threshold has been approached or exceeded.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>Mitigation: To ensure that noise and vibration impacts associated with construction are below threshold levels, Metro’s plans, specifications, and estimates (“bid”) documents will include the following measures:</p> <p>CON-42—Phasing Ground Impacting Operations</p> <p>Demolition, earth moving, and ground impacting operations will be phased so as not to occur in the same time period.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-43—Alternatives to Impact Pile Driving</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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Impact pile driving will be avoided. Drill piles or sonic or vibratory drivers will be used where the geological conditions permit their use and where ground vibration damage risk criteria are satisfied.			
CON-44—Alternative Demolition Methods Demolition methods will be selected to minimize noise and vibration impact where possible.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-45—Restriction on Use of Vibratory Rollers and Packers Use of vibratory rollers and packers will be avoided near vibration sensitive areas.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-46—Metro Ground-Born Noise and Ground-Born Vibration Limits If the Metro ground-borne noise limits or ground-borne vibration limits are exceeded, the contractor will be required to take action to reduce vibrations to acceptable levels. Such action could include reducing the muck train speed, additional rail and tie isolation, and more frequent rail and wheel maintenance.	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
Construction (Energy)			
No mitigation required. However, to further ensure there is no a wasteful, inefficient, or unnecessary energy usage, Metro will require the construction contractor to implement energy conserving BMPs in accordance with Metro’s Energy and Sustainability Policy	Verify Compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
Construction (Geologic Hazards)			
<p>Mitigation: The following measures will be implemented to reduce impacts related to subsidence and settlement due to tunneling.</p> <p>CON-47—Use of Pressurized-Face TBMs for Tunnel Construction To optimize control of the ground overlying and surrounding the tunnels and limit ground settlement to acceptable levels, pressurized-face TBMs will be used for tunnel construction, which will allow the tunnel lining to be installed and grout to be injected into the annulus between the lining and the ground immediately behind the TBM concurrently and without having to lower groundwater levels by dewatering.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
CON-48—Preconstruction Survey, Instrumentation, and Monitoring	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro

<p>Preconstruction Survey, Instrumentation, and Monitoring: As added protection to detect tunneling-induced settlement and settlement induced by other excavation activities, pre-construction surveys will be performed to document the existing conditions of buildings along the alignment before tunneling begins, and instrumentation will be installed to monitor structures. During construction, instrumentation (e.g., ground surface and building monitoring programs) will be in place to measure movements and provide information to the resident engineer and contractor on tunneling performance, as well as to document that the settlement specifications are met. If measurements indicate settlement limits could be exceeded, the contractor will be required to change or add methods and/or procedures to comply with those limits. Construction work will be reassessed if settlements exceed action (warning) levels.</p>			<ul style="list-style-type: none"> ■ Construction
<p>CON-49—Additional Geotechnical Exploration</p> <p>During the design phases, additional geotechnical exploration and analysis will be undertaken to confirm areas where dewatering will be required and if it will cause significant subsidence. If these conditions are found, methods to prevent lowering of the groundwater outside of the excavation will be employed. These methods could include use of slurry walls, secant pile walls, or other methods for the construction of the station walls to reduce the settlement impacts due to groundwater lowering.</p>	<p>Verify completion of research</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Final Design
<p>CON-50—Additional Methods to Reduce Settlement</p> <p>Where conditions warrant (for example, more shallow tunnels directly below sensitive structures or at cross-passages), additional methods to reduce settlement will be specified. Such methods could include the following:</p> <ul style="list-style-type: none"> ■ Permeation grouting to improve the ground prior to tunneling ■ Compaction grouting to consolidate the ground above the tunnel ■ Compensation grouting as the tunnel is excavated ■ Underpinning the structure’s foundation 	<p>Verify compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-51—Techniques to Lower the Risk of Exposure to Hydrogen Sulfide</p> <p>The primary method for reducing exposure to subsurface gases is dilution through the ventilation system. In areas where hydrogen sulfide is encountered, several techniques could be used to lower the risk of exposure. The primary measures to prevent exposure to hydrogen sulfide gas are separation of materials</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

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<p>from the tunnel environment through use of enclosed tunneling systems such as pressure-face TBMs, and increased ventilation capacity to dilute gases to safe levels as defined by Cal/OSHA. Secondary measures could include pre-treatment of groundwater containing hydrogen sulfide by displacing and oxidation of the hydrogen sulfide by injecting water (possibly containing dilute hydrogen peroxide) into the ground and groundwater in advance of the tunnel excavation. This “in-situ oxidation” method reduces hydrogen sulfide levels even before the ground is excavated. This pre-treatment method is unlikely to be necessary where a slurry-face TBM is used, but may be implemented at tunnel-to-station connections or at cross-passage excavation areas and where open excavation and limited dewatering may be conducted such as emergency exit shafts and low-point sump excavations.</p> <p>When needed to reduce hydrogen sulfide to safe levels for slurry treatment; additives could be mixed with the bentonite (clay) slurry during the tunneling and/or prior to discharge into the slurry separation plant. For example, zinc oxide could be added to the slurry as a “scavenger” to precipitate dissolved hydrogen sulfide when slurry hydrogen sulfide levels get too high. Gas levels will be maintained in accordance with Cal/OSHA requirements for safe working environments.</p>			
<p>CON-52—Measures to Reduce Gas Inflows</p> <p>For the stations in elevated gas zones, the use of relatively impermeable lagging, use of diaphragm or slurry walls or equivalent will be implemented to reduce of gas inflows both during and after construction. The slurry wall provides a thick (typically 3 to 4 feet) concrete barrier against water and gas intrusion, and significantly reduces the need for dewatering the station during construction. Grout tubes can be pre-placed within slurry wall panels to be used in the event leakage occurs. Slurry walls present a challenge in accommodating existing utilities, and typically more utility relocation is required for slurry wall systems. Additional ventilation, continuous monitoring, and worker training for exposure to hazardous gases will also be required during station construction. In extreme cases, some work may require temporary use of personal protective equipment, such as fitted breathing apparatus.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-53—Further Research on Oil Well Locations and Abandonment Prior to construction, more detailed research on oil well locations will be conducted. Pre-construction geophysical surveys will be conducted to detect oil</p>	Verify completion of research on oil locations	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro

<p><u>wells should unknown wells be present along the tunnel alignment.</u> Detection of oil wells will include use of magnetic devices to sense oil well casings within the tunnel alignment. <u>It is anticipated that the geophysical survey will be performed along the proposed tunnel alignment prior to construction in the areas of known oil production and mapped wells. This survey will incorporate techniques such as ground-penetrating radar and electromagnetic testing procedures to screen for oil well casings and other subsurface obstructions along the tunnel. These methods could be initiated from the ground surface, in horizontal holes drilled using horizontal directional drilling techniques, or a combination of methods. Shallow excavations may be made to expose and observe anomalies that are detected.</u></p> <p>Where the tunnel alignment cannot be adjusted to avoid well casings, the California Department of Conservation (Department of Oil, Gas and Geothermal Resources) will be contacted to determine the appropriate method to re-abandon 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 of the State Department of Oil, Gas and Geothermal Resources (DOGGR), protection of adjacent property, and before commencing any work to abandon any well, obtaining approval by the DOGGR. Abandonment work including sealing off oil/gas bearing units, pressure grouting etc, must be performed by a state-licensed contractor under the regulatory oversight and approval of DOGGR. Similarly, during construction if an unknown well is encountered, the contractor will notify Metro, Cal/OSHA, and the Gas and Geothermal Resources for well abandonment, and proceed in accordance with state requirements.</p>			<ul style="list-style-type: none"> ■ Prior to Construction
<p>CON-54—Worker Safety for Gassy Tunnels</p> <p>Although not specifically required for gassy tunnels, workers will be supplied with oxygen-supply-type self-rescuers (breathing apparatus required for safety during evacuation during fires).</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
Construction (Hazardous Waste and Materials)			
<p>Mitigation: In addition to the measures implemented as required by applicable regulations the following mitigation measures will be implemented so there will be no impact associated with hazardous waste and materials due to construction activities.</p> <p>CON-55—Site Assessments</p>	Verify completion of ESA and sampling	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior to Construction

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<p>As detailed design-level plans are prepared, and precise LPA excavation limits defined, a more detailed Environmental Site Assessment (Phase II) will be conducted prior to construction in areas of impacted soil. A base line soil sampling protocol will be established with special attention to those areas of environmental concern. The soil will be assessed for constituents likely to be present in the subsurface including, but not limited to, total petroleum hydrocarbons, volatile and semi-volatile organic compounds, polychlorinated biphenyls, polynuclear aromatic hydrocarbons, pesticides, lead arsenates, and Title 22 metals. The depth of the sampling will be based on the depth of excavation or type of construction activities. In addition, in areas where groundwater will be encountered, samples will also be analyzed for suspected contaminants prior to dewatering to ensure that National Pollutant Discharge Elimination System discharge requirements are satisfied.</p>			
<p>CON-56—Soil Reuse</p> <p>As detailed design-level plans are prepared, and precise LPA excavation dimensions defined, a soil mitigation plan will be prepared showing the extent of soil excavation during construction. The soil mitigation plan will use Metro’s Standard Specifications for soil reuse criteria, which include a sampling plan for stockpiled materials, and the disposition of materials that do not satisfy the reuse criteria. It will specify guidelines for imported materials. The plan will include provisions for soil screening for contamination during grading or excavation activities.</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior to Construction
<p>CON-57—Sampling During Construction</p> <p>Metro will sample soil suspected of contamination and analyze the excavated soil for the purpose of classifying material and determining disposal requirements. If excavated soil is suspected or known to be contaminated, the contractor to perform the following operations:</p> <ul style="list-style-type: none"> ■ Segregate and stockpile the material in a way that will facilitate measurement of the stockpile volume. ■ Spray the stockpile with water or an SCAQMD-approved vapor suppressant and cover the stockpile with a heavy-duty plastic (e.g., Visqueen) to prevent soil volatilization to the atmosphere or exposure to nearby workers. 	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-58—Soil Testing</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro

<p>Soil samples that are suspected of contamination will be analyzed for suspected chemicals by a California certified laboratory. If contaminated soil is found, it will be removed, transported to an approved disposal location and remediated or disposed according to state and federal laws. Where contaminated levels can be diluted to acceptable levels soils may be re-used on-site.</p>			<ul style="list-style-type: none"> ■ Construction
<p>CON-59—Personal Protection The contractor will provide qualified and trained personnel and personal protective equipment (PPE) to perform operations that require the disturbance of contaminated substances including excavation of stations, slurry/tunnel material processing, segregation, stockpiling, loading and hauling.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-60—Contaminated Groundwater Groundwater contamination encountered during subsurface construction activities may be treated on-site to acceptable local and state criteria and then discharged into the sanitary sewer. If on-site treatment is not feasible due to the type and severity of the contamination identified, the contaminated ground water may need to be disposed of by recycling in a permitted facility. If unanticipated contaminated groundwater (not included in the health and safety plan) is encountered during construction, the contractor will stop work in the vicinity, cordon off the area, and contact Metro and the appropriate hazardous waste coordinator and maintenance hazardous spill coordinator at Metro and will immediately notify the Certified Unified Program Agencies (City of Los Angeles Fire Department, County of Los Angeles Fire Department, and Los Angeles Regional Water Quality Control Board [LARWQCB]) responsible for hazardous materials and wastes. In coordination with the LARWQCB, an investigation and remediation plan will be developed in order to protect public health and the environment. Any hazardous or toxic materials will be disposed according to local, state, and federal regulations.</p>	Verify completion of testing of suspect contaminated groundwater	Metro/Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-61—Health and Safety Plan A health and safety plan will be required by LPA specifications. The plan will include response to exposure of personnel to constituents of concern identified in the Phase II Environmental Site Assessment.</p>	Verify completion of health and safety plan and compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-62—Storage of Contaminated Materials</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro

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<p>Hazardous or contaminated materials will be properly stored to prevent contact with precipitation and runoff.</p>			<ul style="list-style-type: none"> ■ Construction
<p>CON-63—Monitoring the Environment An effective monitoring and cleanup program will be developed and implemented for spills and leaks of hazardous materials</p>	Verify compliance	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-64—Equipment Repair and Maintenance Equipment to be repaired or maintained will be placed in covered areas on a pad of absorbent material to contain leaks, spills, or small discharges</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-65—Removal of Chemical Residue Any significant chemical residue on the construction sites will be removed.</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ construction
Construction (Ecosystems/ Biological Resources)			
<p>Mitigation: Mitigation measures will be required for compliance with the Migratory Bird Treaty Act and State migratory bird protection and to avoid and minimize impacts to bird species that may utilize trees that could be removed or disturbed during construction of the LPA.</p> <p>CON-66—Biological Survey Two biological surveys will be conducted, one 15 days prior and a second 72 hours prior to construction that will remove or disturb suitable nesting habitat. The surveys will be performed by a biologist with experience conducting breeding bird surveys. The biologist will prepare survey reports documenting the presence or absence of any protected native bird in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). If a protected native bird is found, surveys will be continued in order to locate any nests. If an active nest is located, construction within 300 feet of the nest (500 feet for raptor nests) will be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting.</p>	Verify completion of biological surveys	Metro	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-67—Compliance with City Regulations If construction or operation of the LPA requires removal or pruning of a protected tree, a removal permit will be required in accordance with applicable municipal codes and ordinances of the city in which the affected tree is located. Within the</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction

<p>City of Los Angeles, compliance with the Native Tree Protection Ordinance will require a tree removal permit from the Los Angeles Board of Public Works. Similarly, within the City of Beverly Hills, applicable tree protection requirements, such as tree removal permits, will be followed. Tree removal permits may require replanting of protected trees within the Study Area or at another location to mitigate for the removal of these trees.</p>			
<p>CON-68—Tree Pruning If construction or operation will entail pruning of any protected tree, the pruning will be performed in a manner that does not cause permanent damage or adversely affect the health of the trees.</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-69—Avoidance of Migratory Bird Nesting Season Construction activities that involve tree removal or trimming will be timed to occur outside the migratory bird nesting season, which occurs generally from March 1st through August 31st and as early as February 1st for raptors.</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
Construction (Hydrology and Water Resources)			
<p>Mitigation: In addition to the measures identified for geologic hazards and hazardous wastes and materials, the following measures are recommended to avoid and minimize impacts to water resources and water quality as they relate to groundwater.</p> <p>CON-70—Methods to Control Contaminated Groundwater In the event contaminated groundwater is encountered in test borings and it is determined that contamination is likely to spread, this concern will be mitigated during design and engineering. For example, perched contaminated groundwater in upper levels of the excavation could be allowed to contaminate groundwater in lower levels of an excavation. Methods to control this could include isolation of dewatering systems or/and use of groundwater barriers.</p>	Verify mitigation is completed during project design and engineering.	Metro	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Final Design
<p>CON-71—Plan if Contaminated Groundwater is Encountered If contaminated groundwater is encountered during construction, the contractor will stop work in the vicinity, cordon off the area, and contact the appropriate hazardous waste coordinator and maintenance hazardous spill coordinator at Metro and immediately notify the Certified Unified Program Agencies (City of Los Angeles Fire Department, County of Los Angeles Fire Department, and Los Angeles RWQCB) responsible for hazardous materials and wastes. Through</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction

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<p>coordination with the Los Angeles RWQCB, an investigation and remediation plan will be developed to protect public health and the environment. The contractor will treat or dispose of any hazardous or toxic materials according to local, State, and Federal regulations.</p>			
<p>Mitigation: In addition to the measures identified for geologic hazards and hazardous wastes and materials, the following measures are recommended to avoid and minimize impacts to water resources and water quality as they relate to drainage:</p> <p>CON-72—Erosion and Sediment Control Plan</p> <p>An erosion and sediment control plan will be established prior to construction. The plan will include the following BMPs as appropriate:</p> <ul style="list-style-type: none"> ■ Use of natural drainage, detention ponds, sediment ponds, or infiltration pits to allow runoff to collect and to reduce or prevent erosion ■ Use of barriers to direct and slow the rate of runoff and to filter out large-sized sediments ■ Use of down drains or chutes to carry runoff from the top of a slope to the bottom; ■ Control of the use of water for irrigation so as to avoid off-site runoff 	<p>Monitor compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>CON-73—Landscape and Construction Debris</p> <p>Landscape and construction debris will be periodically and consistently removed.</p>	<p>Monitor compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Final Design
<p>CON-74—Use of Non-Toxic Herbicides or Fertilizers</p> <p>Non-toxic alternatives will be employed for any necessary applications of herbicides or fertilizers.</p>	<p>Monitor compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>CON-75—Use of Temporary Detention Basins</p> <p>Temporary detention basins will be installed to remove suspended solids by settlement.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB)

			<ul style="list-style-type: none"> ■ Metro ■ Construction
<p>CON-76—Water Quality Monitoring</p> <p>Water quality of runoff will be periodically monitored before discharge from the site and into the storm drainage system</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>Mitigation: BMPs for tunnel construction activities will include, but are not limited to, the following measures.</p> <p>CON-77—Use of Stormwater Runoff BMPs</p> <p>Construction sites will have BMPs to divert stormwater runoff from entering the construction area. Containment around the site will include use of temporary measures such as fiber rolls to surround the construction areas to prevent any spills of slurry discharge or spoils recovered during the separation process. Downstream drainage inlets will also be temporarily covered to prevent discharge from entering the storm drain system.</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>CON-78—Measures to Reduce the Tracking of Sediment and Debris</p> <p>Construction entrances/exits will be properly set up so as to reduce or eliminate the tracking of sediment and debris offsite. Appropriate measures will include measures such as grading to prevent runoff from leaving the site, and establishing “rumble racks” or wheel water points at the exit to remove sediment from construction vehicles.</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>CON-79—Cleaning of Equipment</p> <p>Onsite rinsing or cleaning of any equipment will be performed in contained areas and rinse water will be collected for appropriate disposal.</p>	Verify compliance	Metro/Contractor	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>CON-80—Construction Site Water Collection</p> <p>A tank will be required on work sites to collect the water for periodic offsite disposal. Since the slurry production is a closed-loop system in which the water</p>	Verify compliance	Contractor	<ul style="list-style-type: none"> ■ California State Water Resources

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<p>separated from the discharge slurry is continually recycled, minimal and infrequent water discharges are anticipated. These discharges could be accommodated in a tank onsite to collect the water and disposed of periodically.</p>			<p>Control Board (SWRCB)</p> <ul style="list-style-type: none"> ■ Metro ■ Construction
<p>CON-81—Soil and Building Material Storage</p> <p>Soil and other building materials (e.g., gravel) stored onsite must be contained and covered to prevent contact with stormwater and offsite discharge.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ California State Water Resources Control Board (SWRCB) ■ Metro ■ Construction
<p>Construction (Parks and Community Facilities)</p>			
<p>Mitigation: In addition to the measures for communities and neighborhoods, the following measures will avoid and minimize impacts to parks and community facilities.</p> <p>CON-82—Communication with Schools</p> <p>School districts and private school institutions along the alignment will be informed of changes to Metro bus routes, school bus routes, and pedestrian crossings prior to construction.</p>	<p>Verify coordination</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior to construction
<p>CON-83—Work with Transportation, Police, Public Works, and Community Service Departments</p> <p>Metro will work with transportation, police, public works, and community services departments of jurisdictions along the alignment to implement mutually agreed upon measures, such as posting of clearly marked signs, pavement markings, lighting as well as implementing safety instructional programs, to enhance the safety of pedestrians, particularly in the vicinity of schools and access routes to hospitals. The measures will be developed to conform to Metro Rail Transit Design Criteria and Standards, Fire/Life Safety Criteria, Volume IX.</p>	<p>Verify coordination and compliance</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior to Construction
<p>CON-84—Instructional Rail Safety Programs for Schools</p> <p>Metro will provide at no charge to school districts an instructional rail safety program with materials to all affected elementary middle and high schools.</p>	<p>Verify coordination and implementation of Public Outreach Program</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ City of Los Angeles ■ Metro ■ Prior to Construction and project implementation

<p>CON-85—Informational Program to Enhance Safety</p> <p>Metro will provide an on-going informational program to nearby medical facilities, senior centers, and parks if requested by these facilities, to enhance safety. The program will be similar to that described for the schools except the information and materials provided will be geared toward senior citizens.</p>	<p>Verify coordination and implementation of Public Outreach Program</p>	<p>Metro</p>	<ul style="list-style-type: none"> – Metro – Metro – Construction
<p>CON-86—Traffic Control</p> <p>Contractors will be required to control traffic during construction by following the City of Los Angeles Work Area Traffic Control Manual; City of Los Angeles Bureau of Engineering Standard Plan S-610-12 (Notice to Contractors-Comprehensive); and the Bureau of Engineering Standard Specifications for Public Works Construction. Comparable standards will be enforced for work conducted in the other jurisdictions along the alignment.</p>	<p>Verify compliance</p>	<p>Contractor</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction
<p>CON-87—Designation of Safe Emergency Vehicle Routes</p> <p>Safe emergency vehicle routes will be designated around construction sites. The identification of the routes will be coordinated with other agencies.</p>	<p>Verify coordination</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Prior to Construction
<p>Construction (Economic and Fiscal)</p>			
<p>CON-88—Minimize Disruption of Access to Businesses</p> <p>Both standard and site-specific mitigation measures will be developed to minimize disruption of pedestrian access to businesses and disruption of general vehicular traffic flow or access to specific businesses.</p> <p>Implementation of mitigation measures CON-1, TCON-1, T-CON-4, TCON-7, TCON-8, TCON-10, and TCON-11 will further reduce construction impacts to businesses.</p>	<p>Verify inclusion into project design and implementation</p>	<p>Metro</p>	<ul style="list-style-type: none"> ■ Metro ■ Metro ■ Construction