4.10 Hazardous Waste and Materials

4.10.1 Regulatory Framework and Methodology

4.10.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's hazardous materials impacts are listed below. For additional information regarding these regulations, please see the Hazardous Materials Technical Report in Appendix P of this Draft EIS/EIR.

Federal

- Resource Conservation and Recovery Act (RCRA);
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- Superfund Amendments and Reauthorization Act (SARA);
- Toxic Substance Control Act; and
- Federal Occupational Safety and Health Act.

State

- California Hazardous Waste Control Law, California Health and Safety Code, Division 20, Chapter 6.5;
- Carpenter-Presley-Tanner Hazardous Substance Account Act, California Health and Safety Code, Division 20, Chapter 6.8;
- State of California Safety and Health Act;
- Unified Hazardous Waste and Hazardous Materials Management Regulatory Program;
- Waters Bill of 1985 (Business Emergency Plan/Hazardous Materials Business Plan);
- La Follette Bill of 1986 (Risk Management Plan); and
- South Coast Air Quality Management District Rule 1403.

Local

Local jurisdictions, departments, and documents that regulate and oversee issues related to hazardous materials within the project study area are listed below:

- The City of Los Angeles Department of Building and Safety;
- The City of Los Angeles Bureau of Sanitation, Industrial Waste Management Division;
- The City of Los Angeles Fire Department, Hazardous Materials Divisions;
- The City of Los Angeles Fire Department, Underground Storage Tank Division;
- Uniform Fire Code; and
- Los Angeles Municipal Code – Methane and Methane Buffer Zones.

4.10.1.2 Methodology

The methodology used to identify potential impacts consisted of locating potentially hazardous sites and comparing their locations with the route of the proposed project. A Phase I Environmental Site Assessment (ESA) was prepared by DYA in April 2013 (see Appendix P) in which hazardous assessment documents previously prepared for the project were reviewed and potential hazards on the project site were evaluated.

4.10.1.3 Significance Thresholds

NEPA

NEPA does not include specific significance thresholds. According to the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, the determination of significance under NEPA is based on context and intensity.[1] Context relates to the various levels of society where effects could result, such as society as a whole, the affected region, the affected interests, and the locality. The intensity of an effect relates to several factors, including the degree to which public health and safety would be affected; the proximity of a project to sensitive resources; and the degree to which effects on the quality of the human environment are likely to be highly controversial or involve unique or unknown risks.

The CEQA thresholds (described below) encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and the intensity of its impacts. Therefore, the CEQA thresholds listed below also apply to NEPA for the project and its alternatives.

CEQA

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, CEQA does not describe specific significance thresholds. According to the Governor's Office of Planning and Research, significance thresholds for a given environmental effect are at the discretion of the Lead Agency and are at the levels at which the Lead Agency finds the effects of the project to be significant.[2]

State CEQA Guidelines

The State CEQA Guidelines define a significant effect on the environment as: "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance" (State CEQA Guidelines, Section 15382).[3]

The State CEQA Guidelines do not describe specific significance thresholds. However, Appendix G of the State CEQA Guidelines lists a variety of potentially significant effects, which are often used as thresholds or guidance in developing thresholds for determining impact significance. Accordingly, for the purposes of this EIS/EIR, a project would normally have a significant hazardous waste and materials impact, under CEQA, if it would:

[1] Code of Federal Regulations. *CEQ – Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*.
[2] OPR (State of California, Governor's Office of Planning and Research). 1994. *Thresholds of Significance: Criteria for Defining Environmental Significance*. September.
[3] AEP. 2015. *California Environmental Quality Act (CEQA) Statute and Guidelines.*

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and as a result, would create a safety hazard for people residing or working in the project area;
- Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk or loss, injury, or death involving wildland fires including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The only public use airport or private airstrip within two miles of the proposed project alignment is Whiteman Airport, located just under a mile southeast of the intersection of Van Nuys Boulevard and San Fernando Road. However, the proposed project is a transit improvement project on an existing transit corridor and would not propose tall elevated structures or buildings that would create a safety hazard for people residing or working in the project area, nor have an effect on existing operations of Whiteman Airport. The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wild-land fires since the proposed project corridor is not located in a wild-land fire hazard area, but rather is located in an urban environment. For information regarding the proposed project's potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, please see Section 4.14 Safety and Security in this EIS/EIR.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* addresses impacts with respect to hazards under Section F, including F.1 Risk of Upset/Emergency Preparedness and F.2 Human Health Hazards. The L.A. CEQA Thresholds Guide (pages F.1-3 and) states that the determination of significance for risk of upset/emergency preparedness impacts shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework;
- The probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance;
- The degree to which the project may require a new, or interfere with an existing emergency response or evacuation plan, and the severity of consequences; and
- The degree to which project design will reduce the frequency or severity of a potential accidental release or explosion of a hazardous substance.

For human health hazards, the L.A. CEQA Thresholds Guide (pages F.2-3 and F.2-4) states that the determination of significance shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework for the health hazard;
- The probable frequency and severity of consequences to people from exposure to the health hazard; and
- The degree to which project design would reduce the frequency of exposure or severity of consequences of exposure to the health hazard.

4.10.2 Affected Environment/Existing Conditions

The ESA prepared for the project site focused on potential hazardous substances that may be encountered by construction activities associated with the project. The components of the transit alternatives that may require earthwork are summarized below.

- Excavations as deep as 10 feet below the ground surface (bgs) at the centers and as deep as 5 feet bgs at the shoulders of existing street ROWs for at-grade portions of the alternatives including the station, TPSS, and MSF locations.
- Below-grade segment of dedicated guideway along Van Nuys Boulevard between Vanowen Street and Osborn Street that would consist of approximately 1,300 lineal feet of open-cut trench and approximately 12,000 lineal feet of tunnel constructed using cut-and-cover or tunnel boring machine (TBM) techniques. The bottom of the below-grade segment may be as deep as approximately 90-100 feet bgs and may require shoring involving deep excavations, such as cast-in-drilled-hole (CIDH) piles.
- Widening and/or structurally retrofitting existing culvert crossings and bridges along the potential corridor alignments to accommodate the proposed Low-Floor LRT/Tram and LRT improvements may require excavations of approximately 15 feet bgs.
- Replacing the Pacoima Wash Bridge on Metro ROW and constructing the new pedestrian bridge at the Metrolink San Fernando Station may require excavations greater than 50 feet bgs for CIDH piles. The ROW is owned by Metro, and Metrolink trains currently operate on this ROW. Metrolink has been made aware of the project, and Metro will continue coordinating with Metrolink through its Regional Rail Department.
- Constructing the pedestrian bridge at the San Fernando Metrolink Station could potentially be supported on CIDH piles as the foundation system.
- Under Alternative 4, relocating an existing 72-inch-diameter storm drain pipeline located within the existing Van Nuys Boulevard ROW may require excavations as deep as 15 feet bgs.

The ESA identified facilities located within one-quarter mile of the project ROW that might reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous material. Due to the large volume of site inventory and supporting data, a summary of the sites that have potentially recognizable environmental concerns (REC) directly related to the project is provided below.

4.10.2.1 National Priority List

Soil and groundwater contamination is potentially present in the area of the Pacoima Wash Bridge adjacent to San Fernando Road. Contamination in this area has historically been caused by several adjacent sites that are listed under the National Priority List (NPL) and EnviroStor databases. Contaminants included volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), heavy metals, and total petroleum hydrocarbons (TPH). Research of nearby database sites in the area indicates that groundwater may be as shallow as 45 feet bgs.

4.10.2.2 Underground Storage Tanks and Leaking Underground Storage Tanks

Registered underground storage tanks (USTs) could be an environmental concern when they are within, or immediately adjacent to, the project ROW. Leaking underground storage tanks (LUSTs) cases could potentially contaminate the groundwater. UST and LUSTs within ¼ mile of the project alignment are shown on Figure 4.10-1. UST and LUSTs were determined to have a potential to result in impacts to the project if they met the following criteria:

- LUSTS have caused soil and groundwater contamination within ⅛ mile of the project ROW. The assumption being that contamination would have generally occurred below a depth of 2 feet bgs and may have encroached on the project ROW from multiple former auto stations.
- USTs have caused undocumented soil and groundwater contamination adjacent to the project ROW. The assumption being that contamination would have generally occurred below a depth of 5 feet bgs.

4.10.2.3 Oil Wells

Limited oil and gas exploration and pumping from proven reserves have occurred in the areas surrounding the project ROW. The Wildcat Maps and the California Department of Conservation Division of Gas and Geothermal Resources (DOGGR) identified two former plugged and abandoned dry hole wells that exist adjacent to the proposed project ROW, and several that are located within approximately a block of the project alignment. The locations of these wells are shown on Figure 4.10-2.

4.10.2.4 Spills

A record of releases of hazardous substances contaminating soil within and adjacent to the project ROW were registered in the Emergency Response and Notification System (ERNS) database. The assumption being that contamination would have generally occurred within the upper 5 feet of soil.

4.10.2.5 Polychlorinated Biphenyl

Potential polychlorinated biphenyl– (PCB-) containing equipment, such as electrical transformers and substations were present adjacent to the project ROW at the northwest corner of the intersection of Van Nuys Boulevard and Kewen Avenue. PCBs may be encountered within the upper 5 feet of soil adjacent to the electrical transformers and substations.

4.10.2.6 Asbestos-Containing Material

Asbestos-containing material (ACM) may be present in the existing bridge crossings at the Pacoima Diversion Channels. Existing structures located within areas of proposed ROW acquisitions may also contain ACM.

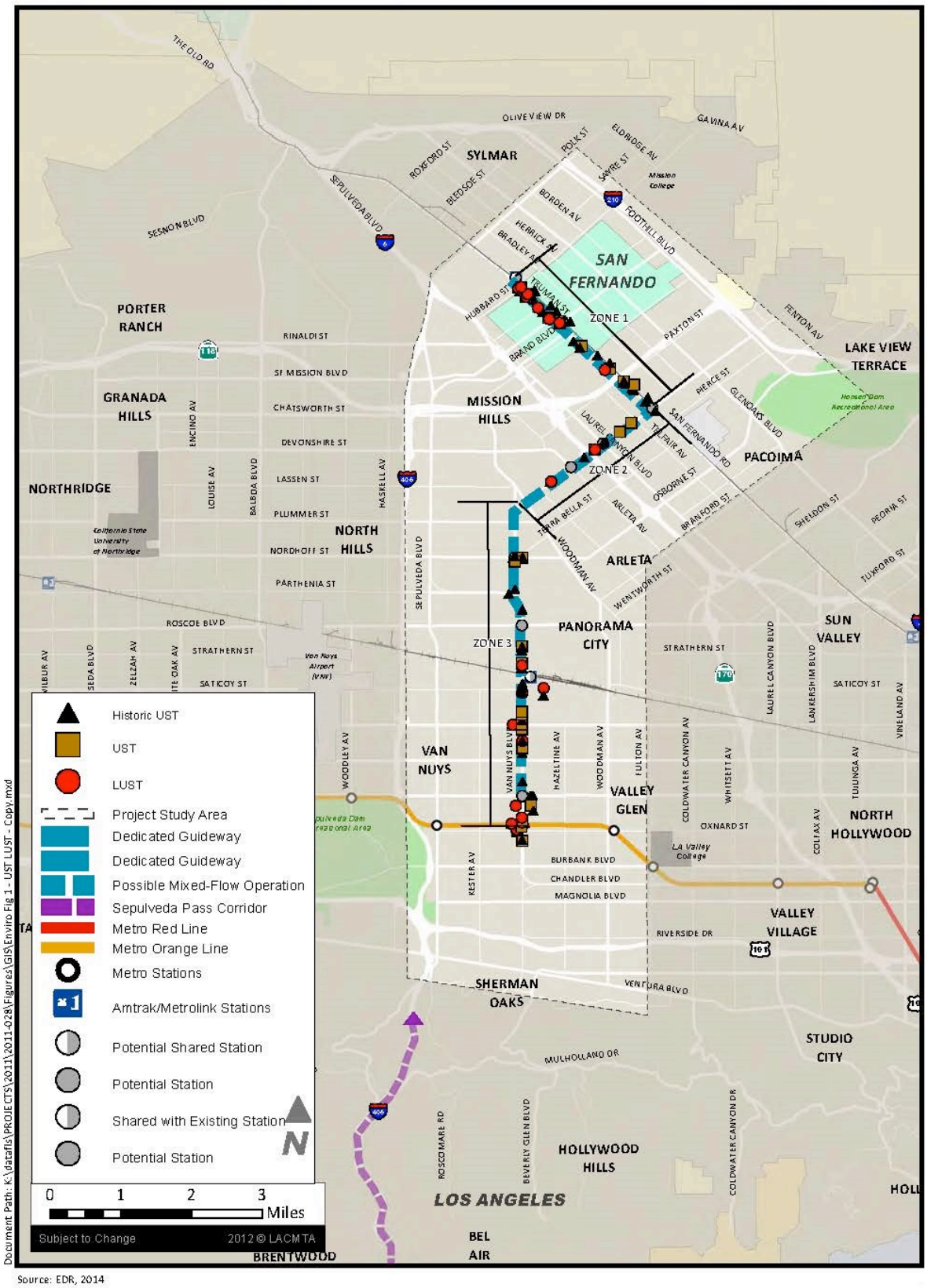
4.10.2.7 Arsenic from Weed Killer

Railroad operations have historically been known to use various substances for weed control within the railroad ROW. Near-surface soils within the Metro Orange Line ROW may contain arsenic from weed killers (herbicides) commonly used in the past by railroads.

4.10.2.8 Railroad Ties

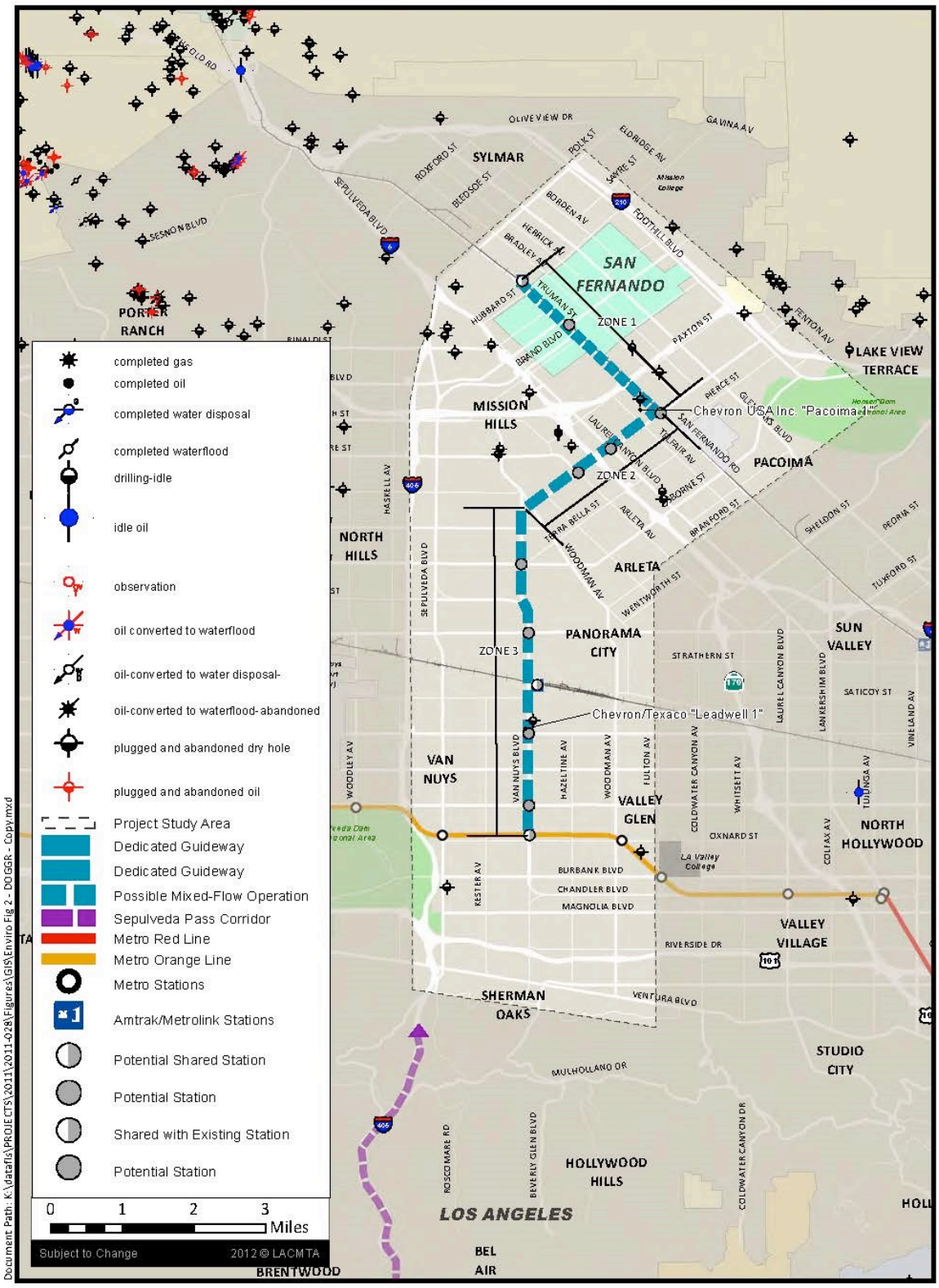
Railroad ties may be present beneath Van Nuys Boulevard. Railroad ties are commonly treated with various chemicals for preservation including, but not limited to, creosote, pentachlorophenol, and metallic arsenates.

Figure 4.10-1: UST and LUSTs



Source: EDR, 2014

Figure 4.10-2: DOGGR Wells



Source: California Department of Conservation, DOGGR .

4.10.2.9 Lead

Soils adjacent to paved areas within the project ROW may contain aerially deposited lead (ADL) from vehicle exhaust. Lead and other heavy metals such as chromium may be present within yellow thermoplastic paint markings on the pavement. These surfacing materials should be tested for LBP prior to removal.

Existing structures located within areas of proposed ROW acquisitions should be evaluated for suspect lead-based paint (LBP) as part of site-specific ESAs.

4.10.2.10 Manufacture, Storage, or Release of Hazardous Materials

Properties potentially to be acquired are listed on multiple databases and should be evaluated further for contaminants that were manufactured, stored, or released from the facility if the properties will be acquired.

4.10.2.11 Underground Injection Control Wells

An existing underground injection control well was located adjacent to the proposed tunnel, along Van Nuys Boulevard, of the LRT Alternative.

4.10.2.12 Dry Cleaners

Portions of the project alignment are adjacent to former or current dry cleaners, and the soil and groundwater along the portions of the project alignment that are adjacent to former and current dry cleaners may contain perchloroethylene (PCE).

4.10.3 Environmental Consequences, Impacts, and Mitigation Measures

4.10.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not result in any project-related construction along the project alignment. Therefore, there would be no construction impacts related to hazardous materials under this alternative.

Operational Impacts

The No-Build Alternative would not result in new project facilities; therefore, there would be no operational impacts related to hazardous materials under this alternative.

Cumulative Impacts

No cumulative impacts would occur.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

No impacts under CEQA would occur.

4.10.3.2 TSM Alternative

Construction Impacts

The amount of construction that would occur under this alternative would be very minor and would be generally limited to minor roadway modifications and bus stop amenities/improvements. Consequently, it's unlikely that significant amounts of materials, soil or groundwater containing hazardous materials or wastes would be encountered during construction. Therefore, potential construction impacts would be less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

The TSM Alternative would include relatively low-cost transit service improvements, such as increased bus frequencies and minor modifications to the roadway network. Increased bus service could result in increased use of hazardous materials required to operate and maintain the bus fleet. Improper handling of these hazardous materials could result in spills adversely affecting the environment or public health. However, the increased use of hazardous materials is not expected to be substantial. Additionally, hazardous materials would be stored, used, and disposed of in accordance with federal, state, and local regulations, and Metro's standard operating procedures.

Other impacts that could also occur include release of lubricants contained in bus vehicles due to mechanical failure, an accident (collisions with other motor vehicles could result in release of lubricants and fuels in those vehicles, as well), or other incidents. However, emergency responders and maintenance personnel are equipped to contain the volume of contaminants that may be released. Additionally, potential incidents that would result in the release of more than minor amounts of hazardous materials are expected to occur infrequently. Therefore, the TSM Alternative would result in a less-than-significant impact under CEQA and a non-adverse effect under NEPA.

Cumulative Impacts

The TSM Alternative would result in very minimal construction. Furthermore, the handling, treatment, and disposal of contaminated materials encountered by the proposed as well as related projects would be conducted in accordance with all applicable federal, state, and local regulations. Therefore, it is not expected that this alternative would contribute to any significant cumulative impacts with regard to hazardous waste and materials.

Compliance Requirements and Design Features

Compliance with the federal, state, and local regulations listed in Section 4.10.1.1 governing the investigation, testing, handling, treatment, transport, and disposal of hazardous wastes and materials would minimize potential impacts due to encountering hazardous materials. The project would also comply with all applicable SCAQMD Rules relevant to hazardous waste and materials including Rule 403 (fugitive dust).

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures would be required.

Operational Mitigation Measures

No operational mitigation measures would be required.

Impacts Remaining After Mitigation

NEPA Finding

Effects under NEPA would not be adverse.

CEQA Determination

Impacts under CEQA would be less than significant.

4.10.3.3 BRT Alternatives (Alternatives 1 and 2)

Alternative 1 – Curb-Running BRT

Construction Impacts

Construction of proposed improvements may encounter hazardous materials during grading and excavation within the ROW. The construction work associated with this alternative would generally be limited to within the upper 5 feet of soil. The ESA indicated that in or adjacent to the project ROW, there are potential instances of LUSTs and hazardous substances from industrial activities. In addition, it is likely that lead and arsenic may have been deposited within the soil along the project alignment and may occur at hazardous levels. Also, as noted above, any yellow thermoplastic paint markings on pavement to be removed may contain lead and other heavy metals such as chromium.

The risk of encountering hazardous materials is a potentially significant impact under CEQA and an adverse effect under NEPA. However, these impacts/effects would be eliminated or reduced to less than significant or non-adverse as a result of compliance with the requirements and design features and implementation of the mitigation measures described below. In addition, dust created from construction activities may contain hazardous contaminants, a potentially significant impact under CEQA and adverse effect under NEPA.

Construction equipment contains fuel, hydraulic oil, lubricants, and other hazardous materials, which could be released accidentally during operation of the equipment, a potentially significant impact under CEQA and an adverse effect under NEPA. Compliance with federal, state, and local regulations, however, would reduce the impact to less than significant under CEQA and minor adverse under NEPA.

Operational Impacts

The Curb-Running BRT Alternative would result in the same impacts as those described above for the TSM Alternative. To the extent this alternative increases bus vehicle service miles beyond what would occur under the TSM Alternative, it would result in a proportionately greater potential for operational hazardous materials impacts. However, the impacts/effects are still expected to be less than significant under CEQA and non-adverse under NEPA.

Cumulative Impacts

The study area for the cumulative impacts discussion consists of the area within a quarter mile of the project ROW. That study area was identified because it has a high probability of capturing all areas that might be significantly affected by the combined impacts of the proposed and related projects. The cumulative impacts study area is also consistent with the project study area as defined above and the area for which database searches were conducted to document potential RECs.

The study area is characterized by urban uses including industrial, commercial, residential, institutional, and infrastructure uses with few vacant parcels and limited open space. As a consequence, construction of other related projects could encounter soils or groundwater contaminated by current or historical uses. Similar to the project, disturbance of contaminated soils or groundwater could expose workers, the public, and environment to increased hazards and result in cumulative hazardous materials impacts. The extent of potential cumulative impacts would depend on the location and extent of construction, the level of any on-site contamination, as well as construction practices and methods.

The BRT and LRT build alternatives would require more significant construction resulting in a higher probability that contaminated soils or groundwater would be encountered during construction. However, compliance with the regulatory requirements and implementation of the additional measures described below would ensure that the combined effects of the build alternatives and related projects in the study area would be minimized and would be less than significant.

Compliance Requirements and Design Features

The compliance requirements and design features applicable under the TSM Alternative are also applicable to Alternative 1.

Mitigation Measures

Construction Mitigation Measures

MM-HAZ-1 (All Build Alternatives): An environmental investigation shall be performed during design for above-grade or below-grade transit structures, stations, and the maintenance yard. The environmental investigation shall collect soil, groundwater, and/or soil gas samples to delineate potential areas of contamination that may be encountered during construction or operations. The environmental investigation shall include the following:

- Properties potentially to be acquired are listed on multiple databases and shall be evaluated further for contaminants that were manufactured, stored, or released from the facility. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.

- Phase II subsurface investigations for potential impacts from adjoining current or former UST sites and nearby LUST sites may be recommended pending the selection of the preferred alternative, potential ROW acquisitions, the depth of excavation, and the result of a review of archives on file with the City of Los Angeles Fire Department (LAFD) and RWQCB.
- A Phase II subsurface investigation to evaluate potential presence of PCE shall be performed along the portions of the project alignment that are adjacent to former and current dry cleaners. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- If construction encroaches into the two former plugged and abandoned dry-hole oil exploration wells mapped adjacent to the proposed project ROW, the project team shall consult with DOGGR regarding the exact locations of the abandoned holes and the potential impact of the wells on proposed construction.
- The locations of proposed improvements involving excavations adjacent to (within 50 feet of) the electrical substation shall be screened prior to construction by testing soils within 5 feet of the existing ground surface for PCBs. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- Buildings that will be demolished shall have a comprehensive ACM inspection prior to demolition. In addition, ACM may be present in the existing bridge crossings at the Pacoima Diversion Channels. If improvements associated with the corridor alternative selected for final design will disturb the existing bridge crossings, then these structures shall be evaluated for suspect ACM. If ACM is found, it shall be removed, and transported to an approved disposal location according to state law.
- Areas along the project alignment where soil may be disturbed during construction shall be tested for ADL according to Caltrans ADL testing guidelines. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- Lead and other heavy metals, such as chromium, may be present within yellow thermoplastic paint markings on the pavement. These surfacing materials shall be tested for LBP prior to removal. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- Former railroad ROWs that crossed or were adjacent to the project ROW may contain hazardous materials from the use of weed control, including herbicides and arsenic, and may also contain Treated Wood Waste (TWW). Soil sampling for potentially hazardous weed control substances shall be conducted for health and safety concerns in the event that construction earthwork involves soil removal from the former railroad ROWs. If encountered during construction, railroad ties designated for reuse or disposal (including previously salvaged railroad ties in the project ROW) shall be managed or disposed of as TWW in accordance with Alternative Management Standards provided in CCR Title 22 Section 67386.

MM-HAZ-2 (All Build Alternatives): The contractor shall implement a Worker Health and Safety Plan prior to the start of construction activities. All workers shall be required to review the plan, receive training if necessary, and sign the plan prior to starting work. The plan shall identify properties of concern, the nature and extent of contaminants that could be encountered during excavation activities, appropriate health and environmental protection procedures and equipment, emergency response procedures including the most direct route to a hospital, and contact information for the Site Safety Officer.

MM-HAZ-3(All Build Alternatives): The contractor shall implement a Contaminated Soil/Groundwater Management Plan during construction to establish procedures to follow if contamination is encountered in order to minimize associated risks. The plan shall be prepared during the final design phase of the project, and the construction contractor shall be held to the level of performance specified in the plan. The plan shall include procedures for the implementation of the following measures:

- Contacting appropriate regulatory agencies if contaminated soil or groundwater is encountered
- Sampling and analysis of soil and/or groundwater known or suspected to be impacted by hazardous materials
- The legal and proper handling, storage, treatment, transport, and disposal of contaminated soil and/or groundwater shall be delineated and conducted in consultation with regulatory agencies and in accordance with established statutory and regulatory requirements in Section 4.10.1.1 of this EIS/EIR
- Implementation of dust control measues such as soil wetting, wind screens, etc., for contaminated soil
- Groundwater collection, treatment, and discharge shall be performed according to applicable standards and procedures listed in Section 4.10.1.1 of this EIS/EIR

MM-HAZ-4 (All Build Alternatives): The contractor shall properly maintain equipment and properly store and manage related hazardous materials, so as to prevent motor oil, or other potentially hazardous substances used during construction, from spilling onto the soil. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.

Operational Mitigation Measures

No operational hazardous materials impacts were identified that would require mitigation measures.

Impacts Remaining After Mitigation

NEPA Finding

Effects under NEPA would not be adverse.

CEQA Determination

Impacts under CEQA would be less than significant.

Alternative 2 – Median-Running BRT

Construction Impacts

The Median-Running BRT Alternative would result in the same construction impacts as the Curb-Running BRT Alternative.

Operational Impacts

The operational impacts of the Median-Running BRT Alternative would be the same as those described above for the Curb-Running BRT Alternative.

Cumulative Impacts

See discussion above for Alternative 1 – Curb-Running BRT.

Compliance Requirements and Design Features

See the discussion above for Alternative 1.

Mitigation Measures

Construction Mitigation Measures

See Mitigation Measures MM-HAZ-1 through MM-HAZ-5 listed above for Alternative 1.

Operational Mitigation Measures

No operational hazardous materials impacts were identified that would require mitigation measures.

Impacts Remaining After Mitigation

NEPA Finding

Effects under NEPA would not be adverse.

CEQA Determination

Impacts under CEQA would be less than significant.

4.10.3.4 Rail Alternatives (Build Alternatives 3 and 4)

Alternative 3 – Low-Floor LRT/ Tram

Construction Impacts

The Low-Floor LRT/Tram Alternative would result in the same impacts as those for the BRT alternatives. Additional impacts that could occur include the potential for encountering groundwater contaminated by VOCs due to the deeper construction excavations for the retrofit or replacement of structures crossing the Pacoima Wash or the foundations for the new pedestrian crossing at the San Fernando Metrolink Station. The potential for encountering hazardous materials during construction under this alternative is a potentially significant impact under CEQA and an adverse effect under NEPA. These potential impacts/effects, however, can be reduced to a less-than-significant impact or non-adverse effect by complying with the requirements and design features and implementation of the mitigation measures described below.

The Low-Floor LRT/Tram Alternative would also include MSF and TPSS facilities, unlike the BRT alternatives described above. The ESA indicated historical land usage as auto repair facilities, waste transfer facilities, manufacturing, and other industrial purposes at the potential properties to be acquired for the proposed MSF and TPSS sites. During demolition of the existing structures, LBP and ACM may be encountered in waste building materials. The construction work for the proposed MSF and TPSS sites would generally include excavations in the upper 5 to 10 feet of soil and may encounter subsurface hazardous waste residue from spills or releases from the former facilities, a potentially significant impact under CEQA and an adverse effect under NEPA. Construction of the MSF and TPSS facilities would include removal of existing hazardous materials within the construction footprint. The removal, handling, and disposal of hazardous materials would be

conducted in accordance with all applicable federal, state, and local regulations, and would comply with the design features and mitigation measures, which would reduce the potential impacts to less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

The Low-Floor LRT/Tram Alternative would include an MSF, which will use and store hazardous materials including fuels, lubricants, and paints, for maintenance of the rail vehicles. Compliance with federal, state, and local regulations, and adherence to Metro's standard operating procedures, would reduce operational impacts/effects to less than significant under CEQA and non-adverse under NEPA. Additionally, it should be noted that the Low-Floor LRT/Tram vehicles, unlike the bus vehicles in the BRT alternatives above, would be electrically powered and would not contain fuels (i.e., natural gas) that could be released to the environment in the event of an accident or mechanical failure.

Cumulative Impacts

See discussion above for Alternative 1.

Compliance Requirements and Design Features

See discussion above for Alternative 1.

Mitigation Measures

Construction Mitigation Measures

See mitigation measures MM-HAZ-1 through MM-HAZ-5 above.

Operational Mitigation Measures

No operational hazardous materials impacts were identified that would require mitigation measures.

Impacts Remaining After Mitigation

NEPA Finding

Effects under NEPA would not be adverse.

CEQA Determination

Impacts under CEQA would be less than significant.

Alternative 4 – LRT

Construction Impacts

The LRT Alternative would result in the same construction impacts as the Low-Floor LRT/Tram Alternative for the at-grade portions of the project. The cut and cover/tunneling portion of this alternative could consist of excavations as deep as 80 feet with piles extending deeper. The ESA indicated that adjacent to the project ROW, there are instances of LUSTs from former auto stations, and some of these facilities may extend into the project ROW because Van Nuys Boulevard may have been widened over time. Abandoned wells and dry holes represent potential vertical migration pathways for crude oil, methane, H2S, and other compounds, and can represent potential hazards for nearby buildings and occupants. The California Department of Conservation/Division of Oil, Gas,

and Geothermal Resources (DOGGR) regulates drilling and abandonment of wells and dry holes. DOGGR regulations evolved over time to address problems and hazards identified in older wells. As a result, there are fewer problems associated with recently plugged wells and dry holes. Nevertheless, even when a well is plugged in accordance with DOGGR regulations, leaks can occur later. Methane and hydrogen sulfide are considered hazardous because of their explosive properties. Hydrogen sulfide is also highly toxic when inhaled – at levels much lower than its explosive limits. If structures are not designed to prevent gas intrusion, these gases can seep into tunnels and other excavations from surrounding soils and result in hazardous conditions.

The potential exists for encountering wells during construction if the tunnel is not aligned to avoid these wells or the wells are not identified. Based on the existing information, design of Alternative 4's underground segment, including stations, alignment, and station entrances has avoided oil wells where these are definitely known, and during final design, additional studies and testing as outlined in mitigation measures MM-HAZ-1 and MM-HAZ-5 would be performed to further ensure all oil wells are identified and re-abandoned or removed according to approved California State Department of Oil, Gas, and Geothermal Resources procedures prior to tunneling.

Additionally, the proposed tunnel would cross beneath a portion of the former General Motors Plant and other manufacturing and industrial sites, which may contain soils containing hydrocarbons, VOCs, and other hazardous waste constituents. The possibility of encountering hazardous materials is a potentially significant impact under CEQA and an adverse effect under NEPA. However, these impacts would be reduced to less than significant with compliance with the requirements and design features and implementation of mitigation measures.

In addition, on the southern end of the proposed tunnel, the structure would potentially be located below historically high groundwater levels, which may be contaminated with hazardous materials, a potentially significant impact under CEQA and adverse effect under NEPA. If groundwater is encountered during construction, any wastewater generated would require laboratory testing to determine appropriate disposal. Compliance with regulatory requirements and mitigation measures would reduce potential effects to less than significant or non-adverse.

Operational Impacts

The LRT Alternative would result in types of operational hazardous materials impacts that would be the same as those that would occur under the Low-Floor LRT/Tram Alternative. However, the tunnel and below grade stations, which are unique to this alternative, have the potential for vapor intrusion from soil and groundwater contamination, which would be a significant impact under CEQA and an adverse effect under NEPA.

Cumulative Impacts

See the discussion above for Alternative 1.

Mitigation Measures

Compliance Requirements and Design Features

See the discussion above for Alternative 1.

Construction Mitigation Measures

Please see mitigation measures MM-HAZ-1 through MM-HAZ-5 above. The following mitigation measure is also proposed.

MM-HAZ-5: In addition to the environmental studies identified above in MM-HAZ-1, the environmental investigation for the LRT Alternative shall include the following:

- If reconstruction of the Pacoima Wash bridge on San Fernando Road is proposed, the construction spoils (e.g., excavated soils, cuttings generated during installation of CIDH piles), including those in contact with the groundwater, shall be contained and tested for total chromium, 1,4-dioxane, trichloroethylene (TCE), and PCE to determine appropriate disposal.
- Phase II subsurface investigation shall be performed along the below-grade segment of the corridor to evaluate the need for environmental remediation measures during construction. The Phase II site investigation shall include the installation of groundwater monitoring wells for the tunneling portion of the alternative.
- An existing underground injection control well is located adjacent to the proposed tunnel along Van Nuys Boulevard for the LRT corridor alternative. The design team shall consult with California Department of Conservation to evaluate the potential impact of the well on the proposed improvements that could encounter groundwater and are located within ⅛ mile of the well.
- To evaluate for the presence of deeper soil contamination and VOCs in groundwater at cut and cover/tunnel excavation locations, soil borings shall be performed and groundwater monitoring wells shall be installed. Soil sampling shall include environmental screening for contamination by visual observations and field screening for VOCs with a photoionization detector (PID). Based on field screening, soil samples shall be analyzed for the suspected chemicals by a certified laboratory. Groundwater samples shall be analyzed for VOCs.
- A Contaminated Soil/Groundwater Management Plan shall be prepared during final design that describes appropriate methods and measures to manage contamination encountered during construction.

Operational Mitigation Measures

MM-HAZ-6: Engineering controls shall be implemented to increase ventilation in the below-grade structures, if vapor intrusion from soil and groundwater contamination is above regulatory levels.

Impacts Remaining After Mitigation

NEPA Finding

Effects under NEPA would not be adverse.

CEQA Determination

Impacts under CEQA would be less than significant.