

1 AMD PLACE REDEVELOPMENT PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

CEQA and the State CEQA Guidelines (PRC Section 21081.6 and State CEQA Guidelines Sections 15091[d] and 15097) require public agencies “to adopt a reporting and monitoring program for changes to the project which it has adopted or made a condition of project approval to mitigate or avoid significant effects on the environment.” A Mitigation Monitoring and Reporting Program (MMRP) is required for the project because the EIR identifies potential significant adverse impacts related to the project implementation, and mitigation measure have been identified to reduce those impacts. Adoption of the MMRP would occur along with approval of the project.

PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM

This MMRP has been prepared to ensure that all required mitigation measures are implemented and completed in a satisfactory manner before and during project construction and operation. The MMRP may be modified by the City during project implementation, as necessary, in response to changing conditions or other refinements; however, modifications to a mitigation measure that could reduce its effectiveness in reducing impacts may not occur without CEQA compliance.

The attached table has been prepared to assist the responsible parties in implementing the mitigation measures. The table identifies the impact, individual mitigation measures, monitoring responsibility, mitigation timing, and provides space to confirm implementation of the mitigation measures. The numbering of mitigation measures follows the numbering sequence found in the EIR. Mitigation measures that are referenced more than once in the Draft EIR are not duplicated in the MMRP table.

ROLES AND RESPONSIBILITIES

Unless otherwise specified herein, the City is responsible for taking all actions necessary to implement the mitigation measures under its jurisdiction according to the specifications provided for each measure and for demonstrating that the action has been successfully completed. The City, at its discretion, may delegate implementation responsibility or portions thereof to a licensed contractor or other designated agent. Section 21081.6 of the Public Resources Code, requires the lead agency to identify the “custodian of documents and other material” which constitutes the “record of proceedings” upon which the action on the project was based. The Sunnyvale City Manager, or designee, is the custodian of such documents for the 1 AMD Place Redevelopment Project.

Inquiries should be directed to:

City of Sunnyvale, Community Development Department/Planning Division
456 W. Olive Avenue
Sunnyvale, CA 94086
Phone: (408) 730-7440

The EIR has been posted on the City's website: <http://www.sunnyvale.ca.gov>. Hard copies of the EIR are available for review at the City's One-Stop Permit Center at 456 W. Olive Avenue, Sunnyvale CA, 94086 and the Sunnyvale Public Library at 665 West Olive Avenue, Sunnyvale, CA 94086.

The City is responsible for overall administration of the MRRP and for verifying that City staff members and/or the construction contractor has completed the necessary actions for each measure. The City may designate a project manager to oversee implementation of the MMRP. Duties of the project manager include the following:

- ▲ ensure routine inspections of the construction site are conducted by appropriate City staff; check plans, reports, and other documents required by the MMRP; and conduct report activities;
- ▲ serve as a liaison between the City and the contractor or project applicant regarding mitigation monitoring issues;
- ▲ complete forms and maintain reports and other records and documents generated for the MMRP; and
- ▲ coordinate and ensure that corrective actions or enforcement measures are taken, if necessary.

The responsible party for implementation of each item will identify the staff members responsible for coordinating with the City on the MMRP.

MITIGATION MONITORING AND REPORTING PROGRAM TABLE

The categories identified in the attached MMRP table are described below.

- ▲ Mitigation Measure – This column provides the verbatim text of the adopted mitigation measure
- ▲ Monitoring Responsibility – This column identifies the party responsible for enforcing compliance with the requirements of the mitigation measure.
- ▲ Timing – This column identifies the time frame in which the mitigation will be implemented.
- ▲ Verification – This column is to be dated and signed by the person (either project manager or his/her designee) responsible for verifying compliance with the requirements of the mitigation measure.

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Mitigation Measure	Monitoring Responsibility	Timing	Verification
Air Quality			
<p>Mitigation Measure 4.2-1a: Apply Tier-4 Emission Standards to all Diesel-Powered Off-Road Equipment When Available The applicant shall require its construction contractor to only use off-road construction equipment that meet EPA's Tier 4 emission standards as defined in 40 CFR 1039 and to comply with the appropriate test procedures and provisions as contained in 40 CFR Parts 1065 and 1068, to the extent feasible. Tier 3 models can be used if a Tier 4 version of the equipment type is not yet produced by manufacturers or if Tier 4 equipment is not available. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. Implementation of this measure shall be required in the contract the project applicant establishes with its construction contractors. The applicant shall demonstrate its plan to fulfill the requirements of this measure in a report or in project improvement plan details submitted to the City prior to the use of any off-road, diesel-powered construction equipment on the site.</p>	City of Sunnyvale	Prior to and during construction activities.	
<p>Mitigation Measure 4.2-1b: Implement Construction-Related Measures to Reduce Fugitive Dust Emissions. The applicant shall require its construction contractors to implement BAAQMD's Basic Construction Mitigation Measures (BAAQMD 2017b:8-4), including, but not limited to the following. These measures shall be included in project improvement plans</p> <ul style="list-style-type: none"> ▲ Water all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) two times per day. ▲ Cover all haul trucks transporting soil, sand, or other loose material off-site. ▲ Remove all visible mud or dirt track-out onto adjacent public roads using wet power vacuum street sweepers at least once per day (dry power sweeping is prohibited). ▲ Limit all vehicle speeds on unpaved roads to 15 miles per hour. ▲ Pave all roadways, driveways, and sidewalks as soon as possible, and lay building pads as soon as possible after grading (unless seeding or soil binders are used). ▲ Minimize idling times by shutting equipment off when not in use or reducing the maximum idling time to five minutes. The project will provide clear signage for construction workers at access points. ▲ Maintain and properly tune all construction equipment in accordance with manufacturers specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. ▲ Post a publicly visible sign with the telephone number and person to contact at the Lea Agency regarding dust complaints. The person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. 	City of Sunnyvale	Included in project improvement plans and implemented during construction activities.	
Biological Resources			
<p>Mitigation Measure 4.3-1: Protection Measures for Nesting Raptors and Other Birds The applicant shall impose the following conditions before, and during, construction:</p>	City of Sunnyvale, in consultation with CDFW	During construction that occurs between	

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<ul style="list-style-type: none"> ▲ To minimize the potential for loss of nesting raptors and other birds, tree removal activities will only occur during the nonbreeding season (September 1-January 31). If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation will be required. ▲ Before removal of any trees or ground disturbing activities between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nesting raptors and other birds and will identify active nests within 500 feet of the site. The surveys will be conducted before the beginning of any construction activities between February 1 and August 31. ▲ Impacts to nesting raptors will be avoided by establishing appropriate buffers around active nest sites identified during preconstruction surveys. Activity will not commence within the buffer areas until a qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer will not likely result in nest abandonment. Typical buffers are 500 feet for raptors, but the size of the buffer may be adjusted if a qualified biologist, in consultation with CDFW, determines that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during construction activities may be required if the activity has potential to adversely affect the nest. ▲ Trees will not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree. 		<p>September 1 and January 31 remove trees when no active nests are present.</p> <p>7-14 days prior to ground disturbing or vegetation removal activities that occur between February 1 and August 31 conduct pre-construction surveys.</p> <p>During construction install appropriate buffers if occupied nests are present. If no occupied nests, no further mitigation needed.</p>	
Greenhouse Gas Emissions and Climate Change			
<p>Mitigation Measure 4.5-1: Implement Project Features to be Consistent with A Future Qualified Climate Action Plan or Implement All Feasible On-Site Greenhouse Gas Reduction Measures and Purchase Carbon Offsets</p> <p>A. The applicant shall implement project design features sufficient to demonstrate that the project would be consistent with the next version of the City’s climate action plan, referred to as CAP 2.0. This option can only be followed if the CAP 2.0 meets the criteria listed in Section 15183.5b(1) of the State CEQA Guidelines prior to any project-related demolition or construction activity. This option can also only be followed if the CAP 2.0 is aligned with the statewide GHG reduction target established by SB 32 of 2016 (i.e., 40 percent below 1990 levels by 2030) and any additional post-2030 statewide reduction targets established by the state legislature at the time. The applicant must follow the City’s process for demonstrating that a project is consistent with the CAP 2.0.</p> <p>If CAP 2.0 is not adopted at the time of construction of project facilities, the applicant shall implement Parts B and C of this mitigation measure.</p> <p>B. The applicant shall implement all feasible measures to reduce GHG emissions associated with the project, including but not limited to the construction- and operation-related measures listed below. The applicant may refrain from implementing some of the measures below only if it provides substantial evidence to the City that substantiates why the measure is infeasible for this project. The GHG reductions achieved by the implementation of measures listed in Part B shall be estimated by a qualified third-party selected by the City. All GHG reduction estimates shall be supported by substantial evidence. The effort to quantify the GHG reductions shall be fully funded by the project applicant. Measures should be implemented even if it is reasonable that its implementation would result in a GHG</p>	<p>City of Sunnyvale</p>	<p>Prior to construction activities</p>	

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<p>reduction but a reliable quantification of the reduction cannot be substantiated. The applicant shall incorporate onsite design measures into the project and submit verification to the City prior to issuance of building permits. Many of these measures are identical to, or consistent with, the measures listed in Appendix B of the 2017 Scoping Plan (CARB 2017a:B-7 to B-8).</p> <p>a. Construction-related GHG Reduction Measures. Implementation of these measures shall be required in the contract the applicant establishes with its construction contractors and identified in the project improvement and site design plans.</p> <p>i. The applicant shall require its contractors to enforce idling of on- and off-road diesel equipment for no more than 5 minutes while on site.</p> <p>ii. The applicant shall implement waste, disposal, and recycling strategies in accordance with Sections 4.408 and 5.408 of the 2016 California Green Building Standards Code (CALGreen Code), or in accordance with any update to these requirements in future iterations of the CALGreen Code in place at the time of project construction.</p> <p>iii. Project construction shall achieve or exceed the enhanced Tier 2 targets for recycling or reusing construction waste of 75 percent for residential land uses as contained in Sections A4.408 and A5.408 of the CALGreen Code.</p> <p>iv. All diesel-powered, off-road construction equipment shall meet EPA's Tier 4 emissions standards as defined in 40 Code of Federal Regulation (CFR) 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. This measure is consistent with Mitigation Measure 4.2-1a in Section 4.2, "Air Quality."</p> <p>v. The applicant shall implement a program that incentivizes construction workers to carpool, use public transit, or EVs to commute to and from the project site.</p>			
<p>b. Operational GHG Reduction Measures</p> <p>i. The applicant shall achieve as many residential zero net energy (ZNE) buildings as feasible. Prior to the issuance of building permits the project developer or its designee shall submit a Zero Net Energy Confirmation Report (ZNE Report) prepared by a qualified building energy efficiency and design consultant to the city for review and approval. The ZNE Report shall demonstrate that development within the project area subject to application of the California Energy Code has been designed and shall be constructed to achieve ZNE, as defined by CEC in its 2015 Integrated Energy Policy Report, or otherwise achieve an equivalent level of energy efficiency, renewable energy generation, or GHG emissions savings. This measure would differ than the project's commitment zero net electricity because ZNE also concerns on-site consumption of natural gas.</p> <p>ii. All buildings shall include rooftop solar photovoltaic systems to supply electricity to the buildings. Alternatively, solar photovoltaic systems can be installed on canopies that also shade parking areas. The</p>	<p>City of Sunnyvale</p>	<p>Verified during building permit plan check.</p>	

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<p>applicant has committed to pre-wiring for solar for residential garage/parking structures as a design feature.</p> <ul style="list-style-type: none"> iii. The applicant shall install rooftop solar water heaters if room is available after installing photovoltaic panels. iv. Any household appliances included in the original sale of the residential units shall be electric and certified Energy Star-certified (including clothes washers, dish washers, fans, and refrigerators, but not including tankless water heaters). v. The applicant shall install programmable thermostat timers in all residential dwelling units that allow users to easily control when the HVAC system will heat or cool a certain space, thereby saving energy. vi. All buildings shall be designed to include cool roofs consistent with requirements established by Tier 2 of the CALGreen Code. vii. All buildings shall be designed to comply with requirements for water efficiency and conservation as established in the CALGreen Code. viii. If natural gas service is provided to the project site then the applicant shall install natural gas connections in all residential backyards and within the common outdoor activity areas of multi-family residential land uses. This measure is not required if natural gas connections are not provided to the project site. ix. Electrical outlets shall be included on every exterior wall of all buildings. These exterior outlets will enable the use of electric-powered landscape maintenance equipment thereby providing an alternative to using fossil fuel-powered generators. x. Outdoor parking lots for the proposed park shall include trees and/or solar canopies designed to provide a minimum 50 percent shading of parking lot surface areas. xi. The applicant shall provide a minimum of one single-port electric vehicle charging station at each new townhome unit that achieves similar or better functionality as a Level 2 charging station (referring to the voltage that the electric vehicle charger uses). The applicant shall also provide Level 2 electric vehicle charging stations at a minimum of 10 percent of parking spaces that serve multi-family residential buildings. xii. Parking lots serving non-residential buildings shall have at least 12.5 percent of parking spaces (209 total) served by electric vehicle charging stations that achieves similar or better functionality as a Level 2 charging station. xiii. The applicant shall create safe paths of travel to building and park access points, connecting to existing bicycle and pedestrian facilities. <p>C. In addition to the measures listed under Part B, the applicant shall offset GHG emissions to zero by funding activities that directly reduce or sequester GHG emissions or by purchasing and retiring carbon credits.</p>			

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<p>To the degree that a project relies on GHG mitigation measures, the City of Sunnyvale, BAAQMD, and CARB recommend that lead agencies prioritize on-site design features, such as those listed in Part B of this mitigation measure, and direct investments in GHG reductions within the vicinity of the project site to provide potential air quality and economic co-benefits locally. While emissions of GHGs and their contribution to climate change is a global problem, emissions of air pollutants, which have a localized effect, are often emitted from similar activities that generate GHG emissions (i.e., mobile, energy, and area sources). For example, direct investment in a local building retrofit programs could pay for cool roofs, solar panels, solar water heaters, smart meters, energy efficient lighting, energy efficient appliances, energy efficient windows, insulation, and water conservation measures for homes within the geographic area of the project. Other examples of local direct investments include financing installation of regional electric vehicle charging stations, paying for electrification of public school buses, and investing in local urban forests. These investments would not only achieve GHG reductions, but would also directly improve regional and local ambient air quality. However, to adequately mitigate GHG emissions to zero, it is critical that any such investments in actions to reduce GHG emissions meet the criteria of being real, additional, quantifiable, enforceable, validated, and permanent as stated in CEQA Guidelines Section 15126.4(C)(3). Where further project design or regional investments are infeasible or not proven to be effective, it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits issues by a recognized and reputable accredited carbon registry (e.g., Climate Action Reserve).</p> <p>The CEQA Guidelines recommend several options for mitigating GHG emissions. State CEQA Guidelines Section 15126.4(C)(3) states that measures to mitigate the significant effects of GHG emissions may include “off-site measures, including offsets that are not otherwise required...” Through the purchase of GHG credits through voluntary participation in an approved registry, GHG emissions may be reduced at the project level. GHG reductions must meet the following criteria:</p> <ul style="list-style-type: none"> ▲ Real—represent reductions actually achieved (not based on maximum permit levels), ▲ Additional/Surplus—not already planned or required by regulation or policy (i.e., not double counted), ▲ Quantifiable—readily accounted for through process information and other reliable data, ▲ Enforceable—acquired through legally-binding commitments/agreements, ▲ Validated—verified through accurate means by a reliable third party, and ▲ Permanent—will remain as GHG reductions in perpetuity. <p>In partnership with offset providers, the applicant shall purchase credits to offset 5,350 MTCO_{2e} of the project’s construction-related GHGs prior to the start of construction from a verified program that meets the above criteria. Also, prior to commencing operation, the applicant shall also purchase credits to offset the project’s operational emissions of 3,560 MTCO_{2e} /year multiplied by the number of years of operation between commencement of operation and 2050, which is the target year of Executive Order S-3-05. It should be noted, however, that this number is subject to change depending on alterations in the level of on-site mitigation applied to the project depending on the feasibility of individual measures, including those listed in Part B of this mitigation measure. Offset protocols and validation applied to the project could be developed based on existing standards (e.g., Climate Registry Programs) or could be developed independently, provided such protocols satisfy the basic criterion of “additionality” (i.e., the reductions would not happen without the financial support of purchasing carbon offsets).</p>			

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<p>Prior to issuing building permits for development within the project, the City shall confirm that the project developer or its designee has fully offset the project’s remaining (i.e., post implementation of GHG reduction measures pursuant to Part B) GHG emissions by relying upon one of the following compliance options, or a combination thereof:</p> <ul style="list-style-type: none"> ▲ demonstrate that the project developer has directly undertaken or funded activities that reduce or sequester GHG emissions that are estimated to result in GHG reduction credits (if such programs are available), and retire such GHG reduction credits in a quantity equal to the project’s remaining GHG emissions; ▲ provide a guarantee that it shall retire carbon credits issued in connection with direct investments (if such programs exist at the time of building permit issuance) in a quantity equal to the project’s remaining GHG emissions; ▲ undertake or fund direct investments (if such programs exist at the time of building permit issuance) and retire the associated carbon credits in a quantity equal to the project’s remaining GHG emissions; or ▲ if it is impracticable to fully offset the project’s GHG emissions through direct investments or quantifiable and verifiable programs do not exist, the project developer or its designee may purchase and retire carbon credits that have been issued by a recognized and reputable, accredited carbon registry in a quantity equal to the project’s remaining GHG Emissions. 	<p>City of Sunnyvale</p>	<p>Verified during building permit plan check.</p>	
Hazards and Hazardous Materials			
<p>Mitigation Measure 4.6-2a: Worker Health and Safety</p> <p>Each contractor whose employees may be potentially exposed to contaminants known to be present in site soil, soil gas, or groundwater shall develop and implement their own contractor-specific and site-specific health and safety plan (HASP). The HASP shall establish the minimum requirements, policies, and procedures adequate to protect site workers, the public, and the environment from identified site environmental hazards. The HASP shall be prepared in accordance with 29 CFR 1910.120 Occupational Safety and Health Administration (OSHA), Hazardous Waste Operations and Emergency Response (HAZWOPER), and California Code of Regulations (CCR), Title 8, Section 5192.</p> <p>The HASP shall address all activities related to subsurface investigation activities and soil, groundwater and storm water management during development activities at the project site. Specifically, the HASP shall address the following:</p> <ul style="list-style-type: none"> ▲ subsurface investigation (i.e., direct-push soil gas screening), as necessary; ▲ excavation, stockpiling and grading of clean soil cover material across the project site; and ▲ groundwater and storm water management, as necessary. <p>Consistent with the project’s finalized Site Management Plan, a template HASP shall be provided to each contractor. The template HASP establishes guidelines and general requirements that shall be adopted by contractors for all workers to follow and attempts to identify all potential hazards at the project site. As described in Section 4.7 of the project’s current Site Management Plan (Roux 2018: 18), each contractor shall be provided procedures to follow in the event previously unidentified environmental issues, such as suspected contamination or an unknown tank are encountered during site development activities. The template HASP serves as a general template for all contractors performing intrusive work which may expose workers to impacted soil vapor or groundwater at the project site following development activities.</p>	<p>City of Sunnyvale</p>	<p>HASP shall be developed before the commencement of construction activities.</p>	

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<p>Each contractor who will be encountering groundwater or potentially affected soil or structures (described in Sections 4.6 and 4.7 of the project’s current Site Management Plan) shall be required to prepare their own HASP that shall comply with 29 CFR 1910.120 OSHA HAZWOPER and the contractor’s own health and safety SOPs. Contractors are responsible for communicating the hazards associated with work at the project site and providing the minimum health and safety requirements as outlined in the contractor HASP. Each contractor’s HASP shall include an independent evaluation of the project site hazards and mitigative actions before the commencement of field activities at the project site.</p>			
<p>Mitigation Measure 4.6-2b: Vapor Intrusion Mitigation</p> <p>Consistent with the final Site Management Plan, project improvement plans will identify the location and design of the Vapor Intrusion Mitigation Systems (VIM System) under all residential structures at the project site. Consistent with the SFRWQCB October 2014 Interim Framework for Assessment of Vapor Intrusion at TCE-Contaminated Sites in the San Francisco Bay Area (SFRWQCB 2014), the VIM System shall include the following components (unless otherwise identified in the final Site Management Plan):</p> <ul style="list-style-type: none"> ▲ Vapor Barrier: The vapor barrier system shall consist of a spray-applied geomembrane (e.g., Liquid Boot®, EPRO System III, or equivalent) covered with a cushion geotextile. The vapor barrier shall have a minimum thickness of 60 mils (1 mil = 10-3 inch) and will be installed below the building slab and above the passive mitigation system. The purpose of the cushion geotextile is to protect the spray-applied geomembrane before and following concrete slab installation activities. ▲ Passive Vapor Mitigation System: The vapor venting system shall consist of 4-inch solid and perforated Schedule 40 polyvinyl chloride (PVC) piping to passively vent soil gas from beneath the building slab to 4-inch riser pipes. Each of the riser pipes shall be connected to a PVC vent cap that will passively vent soil gas to the atmosphere. The passive mitigation system shall be installed directly below the vapor barrier system. The 4-inch diameter PVC piping network shall be embedded within a 4-inch thick layer of rock. ▲ In-situ, Permanent Soil Vapor Barrier: The in-situ soil vapor barrier shall consist of a 2-foot thick layer of soil mixed with cement. This impermeable layer shall be above the water table from 5 to 7 feet below ground surface (bgs). The in-situ barrier shall be located under townhouse buildings that are located above soil vapor samples collected during subsurface investigations that reported the highest concentrations of PCE and TCE. 	<p>City of Sunnyvale in coordination with the SFRWQCB</p>	<p>Development of design for the VIM Systems shall be completed before the start of grading activities.</p> <p>Installation of VIM Systems shall occur during building construction.</p>	
<p>Mitigation Measure 4.6-2c: Stormwater Pollution Prevention</p> <p>To minimize contamination of stormwater during construction, including VOC-impacted contamination, construction activities that involve excavation shall be managed in accordance with the Construction Site Storm Water Pollution Prevention Plan (SWPPP) and the final Site Management Plan. The Construction SWPPP shall be prepared and implemented by the project General Contractor. If stormwater encounters contaminated material in excavations, it cannot be discharged to the storm drain without proper sampling and characterization. Groundwater and potentially impacted storm water in excavations shall be sampled within the excavations. If the water must be pumped out before characterization, then it shall be placed in a holding tank pending the results of laboratory analyses.</p>	<p>City of Sunnyvale</p>	<p>During construction activities.</p>	

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<p>Mitigation Measure 4.6-2d: Construction Dewatering Management</p> <p>Before site occupancy for residential purposes, a Deed Restriction shall be placed on parcels to prohibit extraction and use of site groundwater. However, dewatering excavations may be required during construction for subsurface improvements, such as utility lines. The depth to groundwater at the project site varies from 7 feet bgs to 12 feet bgs. Groundwater at the project site should be assumed to have impacts from PCE, TCE and associated VOCs. As a condition of approval, groundwater cannot be reused on-site or discharged to the storm drain or sanitary sewer without adequate characterization, possible treatment, and permitting as described below:</p> <ul style="list-style-type: none"> ▲ Discharge to the sanitary sewer system shall require adequate analytical data and obtaining a sanitary discharge permit from the City of Sunnyvale; ▲ Discharge to the storm drain system shall require adequate analytical data and coverage under and compliance with a NPDES Permit from the SFRWQCB; ▲ Reuse on-site (e.g. for dust control purposes) shall require obtaining adequate analytical data and meeting discharge requirements agreed to by the SFRWQCB; and ▲ Off-site recycling shall require adequate analytical data and obtaining approval from an off-site water recycling facility. <p>The primary chemicals of concern at the project site are VOCs; thus, groundwater and potentially impacted stormwater shall be sampled and analyzed for VOCs, by EPA Method 8260, before off-site discharge, conveyance or on-site reuse.</p>	<p>City of Sunnyvale in coordination with the SFRWQCB</p>	<p>During construction activities and before site occupancy.</p>	
<p>Noise and Vibration</p>			
<p>Mitigation Measure 4.8-1: Implement Construction-Noise Reduction Measures</p> <p>To minimize noise levels during construction activities, the construction contractors shall comply with the following measures during all construction work that will be identified in project improvement plans:</p> <ul style="list-style-type: none"> ▲ All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation. ▲ Noise-reducing enclosures and techniques shall be used around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors). ▲ Where available and feasible, construction equipment with back-up alarms shall be equipped with either audible self-adjusting backup alarms or alarms that only sound when an object is detected. Self-adjusting backup alarms shall automatically adjust to 5 dB over the surrounding background levels. All non-self-adjusting backup alarms shall be set to the lowest setting required to be audible above the surrounding noise levels. ▲ Designate a disturbance coordinator and post that person's telephone number conspicuously around the construction site and provide to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem. 	<p>City of Sunnyvale</p>	<p>Included in project improvement plans and implemented during construction activities.</p>	

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<ul style="list-style-type: none"> ▲ Install temporary noise curtains as close as feasible to noise-generating activity and that blocks the direct line of sight between the noise source and the nearest noise-sensitive receptor(s). Temporary noise curtains shall consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. The noise barrier layer shall consist of rugged, impervious, material with a surface weight of at least one pound per square foot. 			
<p>Mitigation Measure 4.8-2: Construction Vibration Reduction Measures</p> <ul style="list-style-type: none"> ▲ To prevent disturbance to sensitive land uses, minimum setback requirements for different types of ground vibration producing activities (e.g., pile driving) shall be established based on the proposed pile-driving activities and locations, once determined. Established setback requirements (i.e., 293 feet) can be breached only if a project-specific, site-specific, technically adequate ground vibration study indicates that the buildings would not be exposed to ground vibration levels in excess of 80 VdB, and ground vibration measurements performed during the construction activity confirm that the buildings are not being exposed to levels in excess of 80 VdB. ▲ All vibration-inducing activity within the distance parameters described above shall be monitored and documented for ground vibration noise and vibration noise levels at the nearest sensitive land use and associated recorded data submitted to the City of Sunnyvale so as not to exceed the recommended FTA and Caltrans levels. ▲ Alternatives to traditional pile driving (e.g., sonic pile driving, jetting, cast-in-place or auger cast piles, non-displacement piles, pile cushioning, torque or hydraulic piles) shall be considered and implemented where feasible to reduce vibration levels. ▲ Limit pile-driving activities to the daytime hours between 7:00 a.m. and 6:00 p.m. Monday through Friday and between 8:00 a.m. and 5:00 p.m. Saturday. ▲ Operate all vibration inducing impact equipment as far away from vibration-sensitive sites as reasonably possible from nearby structures. ▲ Phase pile-driving and high-impact activities so as not to occur simultaneously with other construction activities, to the extent feasible. The total vibration level produced could be significantly less when each vibration source is operated at separate times. ▲ Noise and vibration reducing pile-driving techniques shall be employed during construction and monitored to ensure no damage to nearby structures occurs (i.e., vibrations above peak particle velocity (PPVs) of 0.25 inches per second at nearby structures does not occur). These measures can also be used to reduce VdB levels. These techniques shall include: <ul style="list-style-type: none"> ➤ Installing intake and exhaust mufflers on pile-driving equipment; ➤ Vibrating piles into place when feasible, and installing shrouds around the pile- driving hammer where feasible; ➤ Implementing “quiet” pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; 	<p>City of Sunnyvale</p>	<p>Included in project improvement plans and implemented during construction activities</p>	

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<ul style="list-style-type: none"> ➤ Using cushion blocks to dampen impact noise, if feasible based on soil conditions. Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon and micarta (a composite material); and ➤ At least 48 hours prior to pile-driving activities, notifying building owners and occupants within 600 feet of the project area of the dates, hours, and expected duration of such activities. 			
Traffic and Circulation			
<p>Mitigation Measure 4.11-1: Make Improvements to Intersection at Lawrence Expressway/Duane Avenue-Oakmead Parkway</p> <p>Santa Clara County has jurisdiction over the Lawrence Expressway/Duane Avenue-Oakmead intersection. A third left lane will be added to the eastbound approach at the intersection of Lawrence Expressway/Duane Avenue-Oakmead Parkway including one through lane, and one right-turn lane. Signage and pavement striping shall be provided to indicate that the inner first left-turn lane shall be designated for northbound Lawrence Expressway traffic, the middle left-turn lane shall be designated for northbound U.S. 101 traffic, and the outer left-turn lane shall be designated for southbound U.S. 101 traffic. This improvement shall be accomplished by re-striping the Lawrence Expressway/Duane Avenue-Oakmead Parkway intersection to add a third left turn lane, but not undertaking any other physical improvements to the intersection. Additional improvements shown on the Lawrence Expressway/E Duane Avenue to US-101 Concept Plan provided by the County of Santa Clara Roads and Airports Department on December 17, 2018, such as modifications to the corners of the intersection, restriping of crosswalks, the northbound lane alignments, the relocation of pedestrian crossing at the U.S. 101 southbound on-ramp, and the extension of the barrier curb, are shown as a concept plan only. These improvements have not been adopted yet and hence, the project is not responsible for these additional improvements.</p> <p>Additionally, the signal operation and timing at the intersection at Lawrence Expressway/Duane Avenue-Oakmead Parkway shall be adjusted to accommodate the third lane. The project applicant and City of Sunnyvale shall coordinate and agree with the County on the timing and implementation of the improvements prior to issuance of building permits.</p>	City of Sunnyvale and Santa Clara County	Prior to the issuance of building permits.	
<p>Mitigation Measure 4.11-4: Increase Metering Rate at U.S. 101 Lawrence Expressway Diagonal On-Ramp</p> <p>The metering rates shall be increased to one vehicle every 4 seconds to ensure that the maximum queue does not exceed the ramp storage. Prior to the issuance of a building permit, the applicant shall request that the City and Caltrans implement this metering rate change.</p>	City of Sunnyvale and Caltrans	Prior to the issuance of building permits.	
<p>Mitigation Measures 4.11-6: Relocate Duane Avenue Caltrain Shuttle Stop at Project Site</p> <p>The applicant shall work with the City of Sunnyvale and Caltrain to research and identify a new location for the current Duane Avenue Caltrain shuttle stop, which currently is located on the project site. The newly identified shuttle stop location should adequately serve existing riders who use the current shuttle stop by being relocated to an equally convenient</p>	City of Sunnyvale and Caltrain	Prior to the issuance of building permits.	

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Mitigation Measure	Monitoring Responsibility	Timing	Verification
<p>location that includes the same amenities as the current shuttle stop. The shuttle stop shall be relocated prior to the issuance of building permits.</p>			
<p>Mitigation Measure 4.11-8: Prepare and Implement Temporary Traffic Control Plan</p> <p>Before building permits are issued and construction begins, the construction contractor shall prepare a temporary traffic control (TTC) plan to the satisfaction of the City of Sunnyvale Division of Transportation and Traffic and subject to review by all affected agencies.</p> <p>The City of Sunnyvale suggests that the latest edition of the CA MUTCD, Part 6: Temporary Traffic Control, be referred to for guidance on preparing a TTC plan. The TTC plan shall include all information required on the City of Sunnyvale TTC Checklist and shall conform to the TTC Guidelines of the City of Sunnyvale. At a minimum, the plan shall:</p> <ul style="list-style-type: none"> ▲ provide a vicinity map that shows all the streets in the work zone properly labeled, along with the posted speed limits and a north arrow; ▲ identify the path of construction vehicles traveling to the site.; ▲ describe the estimated highest number of vehicle trips generated during project construction activities; ▲ identify the existing roadway lane and bike lane configurations and sidewalks, including dimensions, where applicable; ▲ describe the proposed work zone; ▲ describe anticipated detours and/or lane closures (for pedestrians, bicyclists, and vehicles); ▲ describe no-parking zones and other parking restrictions; ▲ describe appropriate tapers and lengths, signs, and spacing; ▲ identify appropriate channelization devices and spacing; ▲ describe the buffers; ▲ identify work hours and work days; ▲ provide the dimensions of the elements and requirements listed above in accordance with CA MUTCD Part 6 and the City of Sunnyvale’s Standard Operating Procedure (SOP) for bike lane closures; ▲ identify the proposed speed limit changes if applicable; ▲ describe the bus stops and signalized and nonsignalized intersections that will be affected by the work; ▲ show the plan to address pedestrian, bicycle, and Americans with Disabilities Act requirements throughout the work zone in accordance with CA MUTCD Part 6 and the City of Sunnyvale’s SOP for bike lane closures; ▲ provide details on trucks, including the number and size of trucks involved with construction per day, expected arrival and departure times, and truck circulation patterns; ▲ identify all the staging areas on the project site and duration of each stage of construction for the project and any related improvements; and 	<p>City of Sunnyvale</p>	<p>Prior to construction activities</p>	

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Mitigation Measure	Monitoring Responsibility	Timing	Verification
<p>▲ ensure that the contractor has obtained and read the City of Sunnyvale’s TTC Guidelines and City of Sunnyvale’s SOP for bike lane closures.</p>			
<p>Cumulative</p>			
<p>Mitigation Measure 6-13a: Signal Construction at Intersection of Duane Avenue and Duane Court The intersection of Duane Avenue and Duane Court satisfies the peak hour signal warrant under Cumulative and Cumulative Plus Project conditions but does not meet warrants in any preceding analysis scenario, including Existing conditions. Thus, the project shall pay a fair share towards construction of the signal</p>	<p>City of Sunnyvale</p>	<p>Payment of City TIF fees at building permit issuance.</p>	
<p>Mitigation Measure 6-13b: Contribution to the City’s Intelligent Transportation System Strategies and Projects and Lawrence Expressway ITS/Signal System Countywide Project Under Cumulative Plus Project conditions, the following intersections where impacts occur include constraints to the right-of-way that would require acquisition of private property to construct any physical improvements: ▲ #3 – Fair Oaks Avenue / Northbound US 101 Ramps ▲ #6 – Fair Oaks Avenue / Duane Avenue ▲ #7 – Fair Oaks Avenue / Wolfe Road ▲ #26 – Lawrence Expressway / US 101 Southbound Ramps – Oakmead Parkway Therefore, physical improvements to these intersections that would mitigate the operational impacts under Cumulative Plus Project conditions are not feasible. LOS impacts at these study intersections could be improved through implementation of the City’s Intelligent Transportation System (ITS) strategies and projects and the Lawrence Expressway ITS/Signal System Countywide project. Therefore, the project shall pay a fair share towards the ITS projects through the City’s TIF and participation in the Lawrence Expressway ITS/Signal System Countywide project.</p>	<p>City of Sunnyvale And County of Santa Clara</p>	<p>Payment of City TIF fees and participation in the Lawrence Expressway ITS/Signal System Countywide project at building permit issuance.</p>	

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