Appendix A
Local Laws, Regulations, and Policies

Appendix A

LOCAL LAWS, REGULATIONS, AND POLICIES

Law, Regulation, or Policy	Overview
AESTHETICS	
City of Pomona General Plan	The City of Pomona General Plan identifies Campus Drive as a secondary corridor with enhanced streetscape (General Plan Figure 7-C.1) featuring continuous and mature London Plane street tree canopies. The following goals pertaining to special campuses apply to the Proposed Project: **Goal 6C.G1.** Improve the physical compatibility between the City's major institutions and adjacent neighborhoods. **Goal 6C.G2.** Improve the function and appearance of transit, path, and corridor connections between the City's major institutions and Downtown. **Goal 7C.G20.** Create a positive experience for those entering Pomona or traveling along the City's major thoroughfares. **Goal 7F.G4** Ensure high quality new development and redevelopment throughout the City that is designed appropriately to add value to its surrounding context. **Goal 7F.P5** Promote developments that fit with the scale and character of their district or neighborhood by: ▪ Utilizing varied massing, roof types, and floor plans. ▪ Articulating building facades with distinctive architectural features such as windows, doors, chimneys, and other such elements. Use articulation of building massing to reveal internal organization of building elements such as stairs and elevators, atriums, internal gathering spaces and major interior spaces.
Los Angeles County General Plan	The following policies from the Los Angeles County General Plan apply to the Proposed Project: **Policy C/NR 13.1:** Protect scenic resources through land use regulations that mitigate development impacts. **Policy C/NR 13.3:** Reduce light trespass, light pollution and other threats to scenic resources. **Policy C/NR 13.4:** Encourage developments to be designed to create a consistent visual relationship with the natural terrain and vegetation.

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	Policy C/NR 13.5: Encourage required grading to be compatible with the existing terrain.
AGRICULTURAL AND FORESTRY RESOURCES	
County of Los Angeles General Plan	Los Angeles County published its General Plan in 2015 in which it outlines goals and policies to protect productive farmland. In regards to agricultural resources, the following policies may apply to the proposed Project: **Policy C/NR 8.1**: Protect ARAs, and other land identified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance by the California Department of Conservation, from encroaching development and discourage incompatible adjacent land uses. **Policy C/NR 8.2**: Discourage land uses in ARAs, and other land identified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance by the California Department of Conservation, that are incompatible with agricultural activities.
AIR QUALITY	
Los Angeles County General Plan	The following air quality-related goals and policies from the Los Angeles County General Plan's Air Quality Element (2015) may apply to the Proposed Project: **Goal AQ 1:** Protection from exposure to harmful air pollutants. **Policy AQ 1.3:** Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.
South Coast Air Quality Management District Regulations	The South Coast Air Quality Management District (SCAQMD) manages air quality within the urban portions of San Bernardino, Riverside, and Los Angeles counties for attainment and permitting purposes and has implemented several regulations to control air emissions. These regulations would apply to the Proposed Project during construction and operation, in particular to the gasoline refueling station and emergency generator located on-site. The portion of Los Angeles County that contains the project site is designated as a federal and state non-attainment area for ozone and PM$_{2.5}$ and state non-attainment for PM$_{10}$ (CARB 2018, USEPA 2018a, USEPA 2018b, SCAQMD 2016). The SCAQMD has also established the following rules and regulations that may pertain to the Proposed Project (SCAQMD 2018): ▪ **Rule 401 – Visible Emissions** places limits on emissions of any air contaminants darker than a specified shade.

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	▪ **Rule 402 – Nuisance** prohibits emissions “which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property”. ▪ **Rule 403 – Fugitive Dust** requires actions be taken “to prevent, reduce, or mitigate fugitive dust emissions”. ▪ **Rules 404 & 405 –** Deal with particulate matter and place limits on PM emissions based on concentration and process weight. ▪ **Rules 53 – Sulfur Compounds - Concentration** places limits on the discharge of sulfur compounds from any source. ▪ **Rule 461 – Gasoline Transfer and Dispensing** applies to the storage, transfer, and dispensing of gasoline. ▪ **Rule 470 – Asphalt Air Blowing** places limits on air blowing of asphalt. ▪ **Rule 474 – Fuel Burning Equipment – Oxides of Nitrogen** limits NO_2 emissions from stationary equipment operated on gas, liquid, or solid fuel. ▪ **Rule 481 – Spray Coating Operations –** Limits the VOC content of any coating used within the District. ▪ **Rule 1113 – Architectural Coatings -** Limits the VOC content of any coating applied within the District. ▪ **Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines –** Describes fuel use and emissions requirements for generators and other stationary engines. ▪ **Regulation XIII – New Source Review -** Establishes pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the national ambient air quality standards. ▪ **Regulation XIV – Toxics and Other Non-criteria Pollutants –** Establishes review requirements and emission limits for sources of toxic air contaminants.
SCAQMD Air Quality Management Plan	The Final 2016 Air Quality Management Plan (SCAQMD 2017a) presents the District’s plan for attaining federal air quality standards, particularly for ozone and $PM_{2.5}$. A project must be consistent with the AQMP in order to be considered to have no significant adverse impact on air quality.

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	Appendix IV-A (SCAQMD 2017b) contains SCAQMD's proposed stationary and mobile source control measures, including the following that may be applicable to the Proposed Project: **CMB-01: Transition To Zero And Near-Zero Emission Technologies For Stationary Sources [NOx, VOC]** reduces emissions from sources including backup diesel generators by replacing older equipment with zero and near-zero emissions technologies.
SCAQMD CEQA Guidelines	The SCAQMD has established guidelines for determining significance for air quality analyses (SCAQMD 2015) which are shown in **Table A-AQ-1**. Projects below these mass emission thresholds do not have a significant impact on air quality.

Table A-AQ-1. Air Quality Significance Thresholds for Project Operations

Mass Daily Thresholds		
Pollutant	**Construction Pounds/Day**	**Operation Pounds/Day**
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO2eq for industrial facilities	

Source: SCAQMD 2015.

BIOLOGICAL RESOURCES

Law, Regulation, or Policy	Overview
City of Pomona General Plan	The Conservation Element in the City of Pomona's General Plan Update (2014) contains goals and policies for biological resources under the Conservation Component that are applicable to the Proposed Project.

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	Goal 7E.G2. Protect special status species and their supporting habitats within Pomona, including species that are state or federally listed as endangered, threatened or rare. **Goal 7E.G3.** Preserve critical habitat areas and sensitive species. **Goal 7E.G4.** Conserve wildlife ecosystems and sensitive habitat areas in the following order of protection preference: 1) avoidance, 2) on-site mitigation and 3) off-site mitigation. **Goal 7E.G6.** Protect the natural environment, including wildlife, from destruction during new construction or redevelopment within Pomona. **Policy 7E.P5:** Work with county, state and federal agencies to ensure that development within the City of Pomona does not substantially affect state or federally listed rare, endangered or threatened species or their habitats. Require assessments of biological resources prior to approval of any development in or within 300 feet of ecologically sensitive areas as shown in Fig. 7-E.2. **Policy 7E. P12:** Conduct presence/absence biological surveys for sensitive plant and animal species during the appropriate time of year and time of day in natural areas prior to any construction activities proposed adjacent to or within natural areas. If no special-status species are detected during these surveys, then construction-related activities may proceed. If listed special-status species are found within the construction zone, then avoid these species and their habitat or consult with U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife prior to the commencement of construction. **Policy 7E.P13:** Conduct nesting bird surveys prior to any construction activities, including projects proposed to remove/disturb native ornamental landscaping and other nesting habitat for native birds during bird breeding season from March 1 through August 31 (as early as January 1 for some raptors). If no nesting birds are detected during these surveys, then construction-related activities may proceed. Active nests within and adjacent to the construction zone should be avoided and provided a minimum buffer as determined by a biological monitor (CDFW recommends a 300-foot nest avoidance buffer or 500 feet for all active raptor nests) or consult with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife prior to the commencement of construction.
County of Los Angeles	The Conservation and Natural Resources Element in the Los Angeles County General Plan (2015) contains one goal and four policies for biological resources which are considered applicable to the Proposed Project.

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	Goal C/NR 3: Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands and Significant Ecological Areas (SEAs). **Policy C/NR 3.8:** Discourage development in areas with identified significant biological resources, such as SEAs. **Policy C/NR 3.11:** Discourage development in riparian habitats, streambeds, wetlands, and other native woodlands in order to maintain and support their preservation in a natural state, unaltered by grading, fill, or diversion activities. **Policy C/NR 5.5:** Manage the placement and use of septic systems in order to protect nearby surface water bodies. **Policy C/NR 5.6:** Minimize point and non-point source water pollution.
CULTURAL RESOURCES	
City of Pomona General Plan	The City of Pomona General Plan (2014) contains goals and policies for historic preservation under the Community Design component. It focuses heavily on the preservation of historic buildings, neighborhoods and districts, as the City is almost entirely built out and there is very little space for new development. That being said, the City is aware of archaeological sites within the city limits, including a large Native American village site. There are three goals pertaining to historic preservation: **Goal 7F.G8:** Protect historic and cultural resources from demolition, inappropriate alterations and incompatible development. **Goal 7F.G9:** Promote public awareness of the history of Pomona and historic preservation in the City. **Goal 7F.G10:** Promote the protection and preservation of important archaeological sites. There are 23 policies to support the goals. A vast majority of these pertain to preserving the built environment, and because there are no historic buildings within the Project site they will not be reiterated here. The policies most applicable to the current Project include the following: **Policy 7F.P41:** Maintain sources of information regarding paleontological and archeological sites and the names and addresses of responsible organizations and qualified individuals, who can analyze, classify, record, and preserve paleontological or archeological findings.

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	Policy 7F.P42: Require a qualified paleontologist/archeologist to monitor all grading and/or excavation where there is a potential to affect cultural, archeological or paleontological resources. If these resources are found, the applicant shall implement the recommendations of the paleontologist/archeologist, subject to the approval of the Planning Division. **Policy 7F.P43:** Require new development to donate scientifically valuable paleontological or archaeological materials to a responsible public or private institution with a suitable repository, located within Pomona, or Los Angeles County, whenever possible.
Los Angeles County General Plan	The County of Los Angeles General Plan contains a number of goals and policies relevant to cultural resources in Section VIII. Historic, Cultural, and Paleontological Resources under the Conservation and Natural Resources element. The County has one Goal to address this topic: Goal C/NR 14 - Protected historic, cultural, and paleontological resources. There are six policies under the goal, three of which relate to the Proposed Project: **Policy C/NR 14.1:** Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible. **Policy C/NR 14.4:** Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004). **Policy C/NR 14.6:** Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.
ENERGY	
Los Angeles Community Climate Action Plan (CCAP)	The Los Angeles County Community Climate Action Plan (CCAP), which was incorporated into the Los Angeles County General Plan, includes action goals aimed at reducing local contributions to global climate change (Los Angeles County 2015). These action goals include supporting efforts to reduce energy use and GHG emissions, participating in programs related to global climate change, promoting sustainable practices and green technology in development, promoting the research and development of renewable energy technology, and providing incentives for energy-efficient forms of transportation, among others.
GEOLOGY, SOILS, AND SEISMICITY	
City of Pomona General Plan	The City of Pomona General Plan (2014) contains one goal and one policy related to geology, soils, and seismicity.

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	Goal 7G.G10. Avoid exposure to hazards, minimize losses to existing property and reduce the potential for damage to future development. **Policy 7G.P29.** Avoid siting civic structures used by large numbers of people, such as schools and hospitals, in areas of potential liquefaction.
City of Pomona Natural Hazards Mitigation Plan	The City of Pomona's 2004 Natural Hazards Mitigation Plan (NHMP) discusses natural hazards and mitigation for these hazards, as well as hazard risks to the City. These hazards include earthquakes (ground shaking, liquefaction and earthquake-induced landslides), landslides, wildfires, flooding and windstorms.
County of Los Angeles General Plan	The County of Los Angeles General Plan (2015) discusses goals and policies for seismic and geotechnical hazards, three of which would apply to the Proposed Project: **Policy S 1.1:** Discourage development in Seismic Hazard and Alquist-Priolo Earthquake Fault Zones. **Policy S 1.2:** Prohibit the construction of most structures for human occupancy adjacent to active faults until a comprehensive fault study that addresses the potential for fault rupture has been completed. **Policy LU 3.2:** Discourage development in areas with high environmental resources and/or severe safety hazards.

GREENHOUSE GAS EMISSIONS

Los Angeles County Community Climate Action Plan (CCAP)	The County's CCAP (2015) describes the County's GHG emissions reduction target of "at least 11% below 2010 levels by 2020" as being "consistent with statewide reductions under AB 32".
SCAQMD Interim GHG Significance Threshold	In their board letter, "Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans", the SCAQMD (2008) Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 metric tons of CO_2eq for industrial projects where the SCAQMD is the lead agency.

HAZARDS AND HAZARDOUS MATERIALS

City of Pomona General Plan	The City of Pomona's General Plan contains 3 goals and 7 policies related to hazards and hazardous materials that might be applicable to the Proposed Project: **Goal 7G.G8:** Minimize the risk to life and property from fire hazards in the City of Pomona. **Goal 7G.G9:** Work with LACFD to provide fire protection that is responsive to citizen's needs.

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	Policy 7G.P22. Consider future access and water supply infrastructure improvements, particularly in areas that are identified as High or Very High Fire Threat areas on Figure 7-G.3. **Goal 7G.P24:** Follow and enforce the county Fire Department's weed abatement and brush clearance program. **Goal 7G. G12:** Minimize risk to life and property from production, use, storage and transportation of hazardous materials and waste. **Policy 7G.P37:** Comply with all applicable state and local regulations regarding production, use, storage, and transportation of hazardous materials and waste. **Policy 7G.P39:** Require that hazardous materials used in business and industry are transported, handled and stored in accordance with applicable local regulations. **Policy 7G.P43:** Where applicable, identify and regulate appropriate regional and local routes for transportation of hazardous materials and hazardous waste. Require that fire and emergency personnel can easily access these routes for response to spill incidents. **Policy 7G.P44:** As part of the CEQA review process for any development or redevelopment of industrial uses or commercial uses under the General Plan of more than 100,000 square feet in size that is within ¼ mile of an existing or proposed school, the individual project proponent shall prepare a Health Risk Assessment to evaluate the cancer and the non-cancer risks to school children from construction and operation of the proposed development, and shall include feasible mitigation measures to reduce the Hazard Index as defined by the South Coast Air Management District for school children to a less-than-significant level. **Policy 7G.P45:** Require commercial and industrial compliance with the Los Angeles County Hazardous Materials Control Program.
City of Pomona Emergency Operations Plan	The City of Pomona's 2011 Emergency Operations Plan (EOP Plan) is a preparedness document that addresses the City of Pomona's planned response to large-scaled events, including emergency/disaster situations associated with natural disasters, technological incidents, and national security emergencies. Section 7 of the EOP Plan discusses actions, policies and procedures for implementing hazard mitigation programs at the local level.
City of Pomona Natural Hazards Mitigation Plan	As stated in Geology, Soils, and Seismicity above, the City of Pomona's 2004 Natural Hazards Mitigation Plan (NHMP) discusses natural hazards and mitigation for these hazards, including hazards resulting from wildfires, which would be applicable to the Proposed Project.

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County of Los Angeles General Plan	The County of Los Angeles General Plan (2015) contains several goals and policies related to hazards and hazardous materials. The following policies in the County of Los Angeles general plan are relevant to the Proposed Project: **Policy LU 3.2:** Discourage development in areas with high environmental resources and/or severe safety hazards. **Policy S 3.4:** Reduce the risk of wildland fire hazards through the use of regulations and performance standards, such as fire resistant building materials, vegetation management, fuel modification and other fire hazard reduction programs. **Policy S 3.9:** Adopt by reference the County of Los Angeles Fire Department Strategic Fire Plan, as amended.
County of Los Angeles All-Hazard Mitigation Plan	The County of Los Angeles developed an All-Hazard Mitigation Plan (2014) to cover mitigation responsibilities of County departments and unincorporated communities, and establishes the County's emergency policies and procedures in the event of a disaster (County of Los Angeles 2014).
HYDROLOGY AND WATER QUALITY	
City of Pomona General Plan	The City of Pomona's General Plan Update (2014) contains the following goals and policies that are relevant to the hydrology and water quality impacts analysis for the Proposed Project: **Goal 7E.G12.** Continue to reduce City-wide water use. **Goal 7E.G13.** Comply with the Los Angeles RWQCB regulations and standards to maintain and improve the quality of both surface water and groundwater resources. **Goal 7E.G14.** Enhance the quality of groundwater and surface water resources, prevent their contamination, and reduce the amount of polluted runoff that reaches the City's storm drain system. **Policy 7E.P24**. For both private and public construction in new development and renovations, encourage rainwater and wastewater Best Management Practices (BMPs) to minimize rainwater runoff, and maximize rainwater and greywater collection and reuse. **Policy 7E.P25.** Encourage the use of water efficient appliances and fixtures in new development and upgrades in existing development **Policy 7E.P30.** Continue working with the Los Angeles RWQCB in the implementation of the NPDES for the protection of surface water and groundwater quality.

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Los Angeles County General Plan	The Conservation and Natural Resources Element of the Los Angeles County General Plan (2015) contains the following goals and policies that are relevant to the hydrology and water quality impacts analysis for the Proposed Project. **Goal C/NR 5:** Protected and useable local surface water resources. **Policy C/NR 5.1:** Support the LID philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales. **Policy C/NR 5.2:** Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits. **Policy C/NR 5.6:** Minimize point and non-point source water pollution. **Policy C/NR 5.7:** Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals, such as roadway, railway, bridge, and other— particularly—tributary street and greenway interface points with channelized waterways. **Goal C/NR 6:** Protected and useable local groundwater resources. **Policy C/NR 6.1:** Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development. **Policy C/NR 6.2:** Protect natural groundwater recharge areas and regional spreading grounds. **Goal C/NR 7:** Protected and healthy watersheds. **Policy C/NR 7.1:** Support the LID philosophy, which mimics the natural hydrologic cycle using undeveloped conditions as a base, in public and private land use planning and development design.

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LAND USE AND PLANNING	
City of Pomona 2014 General Plan Update	The City's General Plan establishes land use density/intensity standards by transect zone. The transect system uses the concept of place types that range from rural (T1) to urban (T6). The character and function of a district, center, or segment is an extension of its place in the continuum of the transect. The area of Pomona nearest to the Project site, and which would be affected by construction activities for off-site infrastructure improvements, is designated as T3 – Traditional. The T3 transect accommodates "[a] variety of small scale, primarily single-family housing types as well as limited attached housing types (such as townhomes and multiplexes) that are sensitively designed and explicitly compatible with adjacent homes." Chapter 5.0, "Analysis," of the CPP Master Plan identifies pertinent planning issues related to projected growth in enrollment and facilities to support the academic mission of the University and the vision of the Master, as well as campus physical planning issues. **5.1.4 Open Space** The Cal Poly Pomona campus is comprised of a central campus surrounded by large areas of open space, primarily of academic agricultural use. The campus is located in an environment that is becoming more urbanized. Therefore, the value of open space to the campus community is significant.
Los Angeles County General Plan	The County's General Plan (2015) contains the following policies related to land use that are relevant to the Proposed Project: **Chapter 6: Land Use Element** **IV. Land Use Legend – Table 6.2, "Land Use Designations"** P – Public and Semi-Public Purpose: Public and semi-public facilities and community-serving uses, including public buildings and campuses, schools, hospitals, cemeteries, and fairgrounds; airports and other major transportation facilities. Other major public facilities, including planned facilities that may be public-serving but may not be publicly accessible, such as landfills, solid and liquid waste disposal sites, multiple use storm water treatment facilities, and major utilities.

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	*In the event that the public or semi-public use of mapped facilities is terminated, alternative uses that are compatible with the surrounding development, in keeping with community character, are permitted. **Goal LU 3:** A development pattern that discourages sprawl, and protects and conserves areas with natural resources and SEAs. **Policy LU 3.3:** Discourage development in undeveloped areas where infrastructure and public services do not exist, or where no major infrastructure projects are planned, such as state and/or federal highways.
Los Angeles County Zoning Code	The Los Angeles County Department of Regional Planning provides zoning information in Title 22, Planning and Zoning, of the Los Angeles County Code of Ordinances. Section 22.16.030(C) contains Table 22.16.030-B: Principal Use Regulations for Agricultural, Open Space, Resort and Recreation, and Watershed Zones, which identifies the permit or review required to establish each principal use. The A-1 zoning district allows "[p]ublicly owned uses that are necessary to maintain the public health, convenience, or general welfare, other than uses specifically listed in the zone" with a Conditional Use Permit.
MINERAL RESOURCES	
Los Angeles County General Plan	Los Angeles County published its General Plan in 2015 in which it outlines goals and policies for mineral and energy resources. In regards to mineral resources, the following policies may apply to the proposed Project: **Policy C/NR 10.1**: Protect MRZ-2s and access to MRZ-2s from development and discourage incompatible adjacent land uses. **Policy C/NR 10.2**: Prior to permitting a use that threatens the potential to extract minerals in an identified Mineral Resource Zone, the County shall prepare a statement specifying its reasons for permitting the proposed use, and shall forward a copy to the State Geologist and the State Mining and Geology Board for review, in accordance with the Public Resources Code, as applicable.
NOISE	
Los Angeles County Noise Regulations	The Los Angeles County Noise Control Ordinance (2018) contains the following policies applicable to the Proposed Project with regard to noise:

12.08.390 - Exterior noise standards—Citations for violations authorized when.

A. Unless otherwise herein provided, the following exterior noise levels shall apply to all receptor properties within a designated noise zone:

Noise Zone	Designated Noise Zone Land Use (Receptor property)	Time Interval	Exterior Noise Level (dB)
I	Noise-sensitive area	Anytime	45
II	Residential properties	10:00 pm to 7:00 am (nighttime)	45
		7:00 am to 10:00 pm (daytime)	50
III	Commercial properties	10:00 pm to 7:00 am (nighttime)	55
		7:00 am to 10:00 pm (daytime)	60
IV	Industrial properties	Anytime	70

B. Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards:

Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1.

Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus 5dB; or, if the ambient L25 exceeds the foregoing level, then the ambient L25 becomes the exterior noise level for Standard No. 2.

Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable

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	noise level from subsection A of this section plus 20dB; or, if the ambient L8.3 exceeds the foregoing level, then the ambient L8.3 becomes exterior noise level for Standard No. 3. Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from subsection A of this section plus 15dB; or, if the ambient L1.7 exceeds the foregoing level, then the ambient L1.7 becomes the exterior noise level for Standard No. 4. Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section plus 20dB; or, if the ambient L0 exceeds the foregoing level then the ambient L0 becomes the exterior noise level for Standard No. 5. C. If the measurement location is on a boundary property between two different zones, the exterior noise level utilized in subsection B of this section to determine the exterior standard shall be the arithmetic mean of the exterior noise levels in subsection A of the subject zones. Except as provided for above in this subsection C, when an intruding noise source originates on an industrial property and is impacting another noise zone, the applicable exterior noise level as designated in subsection A shall be the daytime exterior noise level for the subject receptor property. D. The ambient noise histogram shall be measured at the same location along the property line utilized in subsection B of this section, with the alleged intruding noise source inoperative. If for any reason the alleged intruding noise source cannot be turned off, the ambient noise histogram will be estimated by performing a measurement in the same general area of the alleged intruding noise source but at a sufficient distance such that the noise from the alleged intruding noise source is at least 10dB below the ambient noise histogram in order that only the actual ambient noise histogram be measured. If the difference between the ambient noise histogram and the alleged intruding noise source is 5 to 10dB, then the level of the ambient noise histogram itself can be reasonably determined by subtracting a one-decibel correction to account for the contribution of the alleged intruding noise source.

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E. In the event the intrusive exceeds the exterior noise standards as set forth in subsections B and C of this section at a specific receptor property and the health officer has reason to believe that this violation at said specific receptor property was unanticipated and due to abnormal atmospheric conditions, the health officer shall issue an abatement notice in lieu of a citation. If the specific violation is abated, no citation shall be issued therefor. If, however, the specific violation is not abated, the health officer may issue a citation.

12.08.440 - Construction noise.

A. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer is prohibited.

B. Noise Restrictions at Affected Structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule:

1. At Residential Structures.

a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:

	Single-family Residential	Multi-family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75dBA	80dBA	85dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60dBA	64dBA	70dBA

b. Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	Single-family Residential	Multi-family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60dBA	65dBA	70dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50dBA	55dBA	60dBA

2. At Business Structures.

a. Mobile equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment:

Daily, including Sunday and legal holidays, all hours: maximum of 85dBA.

C. All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped with suitable exhaust and air-intake silencers in proper working order.

D. In case of a conflict between this chapter and any other ordinance regulating construction activities, provisions of any specific ordinance regulating construction activities shall control.

12.08.500 - Emergency signaling devices.

A. The intentional sounding or permitting the sounding outdoors of any emergency signaling device, including fire, burglar or civil-defense alarm, siren, whistle, or similar stationary emergency signaling device, except for emergency purposes or for testing, as provided in subsection B2 below, is prohibited.

B. 1. Testing of a stationary emergency signaling device shall not occur before 7:00 a.m. or after 7:00 p.m. Any such testing shall use only the minimum cycle test time. In no case shall such test time exceed 60 seconds.

2. Testing of the complete emergency signaling system, including the functioning of the signaling device, and the personnel response to the signaling device, shall not occur more than once in each calendar month.

Such testing shall not occur before 7:00 a.m. or after 10:00 p.m. The time limit specified in subsection B1 above shall not apply to such complete-system testing.

12.08.560 - Vibration.

Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of

Law, Regulation, or Policy	Overview
	any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 in/sec over the range of 1 to 100 Hertz. **12.08.570 - Activities exempt from chapter restrictions.** The following activities set out in this chapter shall be exempted from the provisions of this chapter: A. Emergency Exemption. The emission of sound for the purpose of alerting persons to the existence of an emergency, or the emission of sound in the performance of emergency work; B. Warning Devices. Warning devices necessary for the protection of public safety, as for example police, fire and ambulance sirens, and train horns; D. Exemption from Exterior Noise Standards. The following activities are exclusively regulated by the prohibitions of Part 4 of this chapter: 1. Construction
Los Angeles County General Plan	The Noise Element of the Los Angeles County General Plan (2015) contains the following noise-related goals and policies that may apply to the Proposed Project: **Goal N 1:** The reduction of excessive noise impacts. **Policy N 1.3:** Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT). **Policy N 1.6:** Ensure cumulative impacts related to noise do not exceed health-based safety margins. **Policy N 1.9:** Require construction of suitable noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.

POPULATION AND HOUSING

Law, Regulation, or Policy	Overview
Los Angeles County General Plan	The Los Angeles County General Plan (2015) contains goals and policies regarding population and housing. The following policy may be applicable to the project site or Proposed Project. **Policy ED 2.5:** Encourage employment opportunities in proximity to housing.

Law, Regulation, or Policy	Overview
PUBLIC SERVICES	
City of Pomona General Plan	The City of Pomona General Plan (2014) contains the following goals and policies that are relevant to the public services impacts analysis for the Proposed Project. **Goal 7G.G4.** Provide police services that are responsive to citizens' needs to ensure a safe and secure environment for people and property in the community. **Policy 7G.P11.** Strive to maintain a minimum standard of 1.3 police officers per 1,000 residents. **Policy 7G.P18.** Ensure adequate police staff to provide rapid and timely response to all emergencies and maintain the capability to have minimum average response times. **Goal 7G.G8.** Minimize the risk to life and property from fire hazards in the City of Pomona. **Goal 7G.G9.** Work with LACFD to provide fire protection that is responsive to citizen's needs. **Policy 7G.P20.** Require site design features, fire retardant building materials and adequate access as conditions for approval of development or improvements to reduce the risk of fire within the City. **Policy 7G.P21.** Require new wood and wood shake roofing materials to be a minimum of a class B rated material. Require fire resistant materials for re-roofing projects. Requiring tile roofs to be a minimum of class A rated tile material in high or very high fire threat areas. **Policy 7G.P22.** Consider future access and water supply infrastructure improvements, particularly in areas that are identified as High or Very High Fire Threat. **Policy 7G.P24.** Follow and enforce the county Fire Department's weed abatement and brush clearance program.
Los Angeles County General Plan	The Safety Element of the Los Angeles County General Plan (2015) contains the following goals and policies that are relevant to the public services impacts analysis for the Proposed Project. **Goal S 4:** Effective County emergency response management capabilities**.** **Policy S 4.1:** Ensure that residents are protected from the public health consequences of natural or man-made disasters through increased readiness and response capabilities, risk communication, and the dissemination of public information.

Law, Regulation, or Policy	Overview
	Policy S 4.2: Support County emergency providers in reaching their response time goals. **Policy S 4.3:** Coordinate with other County and public agencies, such as transportation agencies, and health care providers on emergency planning and response activities, and evacuation planning. **Policy S 4.5:** Ensure that there are adequate resources, such as sheriff and fire services, for emergency response.
RECREATION	
City of Pomona General Plan	The Circulation Element of the Pomona General Plan (2014) has numerous policies that emphasize pedestrian and bicycle movement, which may apply to the proposed project. These policies aim to: **Policy 6B. P5** – improve the safety and convenience of pedestrian movement throughout the community. **Policy 6B. P5** – recognize the importance of the bicycle and pedestrians as a viable means of transportation and to make adequate provision for its safe use within the community,
County of Los Angeles General Plan	The Los Angeles County General Plan (2015) contains goals and policies regarding recreation. The following policy may be applicable to the project site or Proposed Project. **Policy P/R 1.11:** Provide access to parks by creating pedestrian and bicycle-friendly paths and signage regarding park locations and distances.
TRANSPORTATION	
City of Pomona Traffic Impact Study Guidelines (2012a)	The City of Pomona's Public Works Department has established guidelines for preparing traffic studies and determining potential impacts. Impacts are defined separately for signalized and unsignalized intersections as follows: **5 TRAFFIC ANALYSIS METHODOLOGY** **5.1 Intersection Analysis:** Intersection analyses shall be performed using the latest version of the Transportation Research Board, Highway Capacity Manual (HCM) methodology. a) Signalized intersections shall be analyzed using the Operation Method as described in Chapter 16, Section 11 of the Highway Capacity Manual (HCM). b) Unsignalized intersections shall be analyzed using the methodology in Chapter 17 of HCM.

Law, Regulation, or Policy	Overview
	c) All intersection analysis should be completed using Synchro software or equivalent. The following assumptions are to be used in the analysis: ▪ Optimized signal timing ▪ Two (2) second lost time/phase ▪ 1800 vphgpl for exclusive thru and right turn lanes ▪ 1700 vphgpl for exclusive left turn lanes ▪ 1600 vphgpl for exclusive dual left turn lanes Other saturation flow rates may be used based on actual field measurements of particular intersections. **6 DETERMINATION OF IMPACTS:** **6.1 Signalized Intersections:** Any study intersection that is operating at a LOS ‘A’, ‘B’, ‘C’, or ‘D’ for any study scenario without project traffic in which the addition of project traffic causes the intersection to degrade to LOS ‘E’ or LOS ‘F’ for any study scenario without project traffic shall mitigate any impacts so as to bring the intersection back to the overall level of delay established prior to the project traffic being added. **6.2 Unsignalized study intersections** An impact is considered significant if the study determines that either section a) or both sections b) and c) occur. a) The addition of project related traffic causes the intersection to move from a LOS ‘D’ or better to a LOS ‘E’ or worse **OR** b) The project contributes additional traffic to an intersection that is already projected to operate at an LOS ‘E’ or ‘F’ with background traffic (per Section 3.2 b)) **AND** c) One or both of the following conditions are met: 1) The project adds ten (10) or more trips to any approach 2) The intersection meets the peak hour traffic signal warrant after the addition of project traffic (per Section 3.2 c)).

Law, Regulation, or Policy	Overview
City of Pomona General Plan Update (2014)	The City of Pomona's General Plan (2014) seeks to create a balanced transportation network that supports and encourages walking, bicycling, and transit ridership. Transportation goals and policies that are relevant to the proposed project are as follows: **Goal 7D.G12.** Balance the need to ensure efficient motor vehicle circulation with goals related to quality of life, neighborhood preservation and community development. **Policy 7D.P10.** Require proposed development to implement or fund capital improvements to 1) maintain sidewalks, roadway paving, and landscaping 2) implement streetscape design improvements, and 3) accommodate growth with an emphasis on reduced reliance on the automobile. **Policy 7D.P22.** Design traffic calming solutions that accommodate safe circulation for all transportation modes and maintain or increase street connections. Traffic-calming measures include installing stop and/or yield signage. **Policy 7D.P38.** When designing streetscape and circulation improvements, balance pedestrian needs with the needs of other transportation modes and put a higher priority on pedestrian facilities in areas of high pedestrian activity such as in Downtown, Neighborhood Centers, Transit Oriented Districts and near school sites. **Policy 7D.P48.** Require pedestrian site access for all new development and identify missing elements during the development review process.
Los Angeles County Municipal Code (2019)	**Section 22.112.060.** Required ratio of parking spaces: Office, Retail, and Service Uses. All commercial uses, including retail uses and medical and dental offices, excluding business and professional offices require one space per 250 square feet.
Los Angeles County Congestion Management Program (2010)	The Congestion Management Plan (CMP) describes the strategies to assess, monitor, and improve the performance of the county's multimodal transportation system; assess congestion; and protect the environment with strategies to help reduce greenhouse gas emissions. The CMP also describes the scope of the County's review for land use actions with the potential to cause countywide or regional scale impacts.
Los Angeles County Traffic Impact Analysis Report Guidelines (1997)	**5. Significant Impact Threshold** For intersections, the impact is considered significant if the project related increase in the volume to capacity (v/c) ratio equals or exceeds the threshold shown below.

Law, Regulation, or Policy	Overview

Intersections		
Pre-project		Project V/C Increase
LOS	V/C	
C	0.71 to 0.80	0.04 or more
D	0.81 to 0.90	0.02 or more
E/F	0.91 or more	0.01 or more

City of Pomona Active Transportation Plan (Bicycle Master Plan) (2012b)

The City of Pomona's Active Transportation Plan (2012b) provides long-term vision and direction for bicycle transportation and recreation in the City of Pomona. The proposed network was developed according to the following criteria:

- **Connection to Activity Centers**: Schools and universities; community facilities such as Garey High School, the library, the community center, parks, and open space; and neighborhood commercial districts should be accessible by foot or bicycle. Residents should be able to walk or bike from home to both local and regional destinations.
- **Comfort and Access**: The system should provide safe and equitable access from all areas of the City to both commute and recreation destinations, and should be designed for people of all levels of ability.
- **Purpose**: Each link in the system should serve one or a combination of these purposes: encourage bicycling for recreation, improve facilities for commuting, and provide a connection to the citywide bike network. On-street facilities should be continuous and direct, and off-street facilities should have a minimal number of arterial crossings and uncontrolled intersections.
- **Connection to Regional Networks:** The system should provide access to regional bikeways, regional trails, and routes in adjacent communities.

TRIBAL CULTURAL RESOURCES

Los Angeles County General Plan

The Los Angeles County general plan includes a policy to consult with Native American tribes (see Cultural Resources, above).

UTILITIES AND SERVICE SYSTEMS

City of Pomona General Plan

The City of Pomona General Plan (2014) contains the following goals and policies that are relevant to the utilities and service systems impacts analysis for the Proposed Project.

Law, Regulation, or Policy	Overview
	Goal 7E.G11. Promote the orderly and efficient operation and expansion of the water supply system to meet current and projected needs. **Goal 7E.G12.** Continue to reduce City-wide water use. **Goal 7E.G15.** Maintain a wastewater system adequate to protect the health and safety of all Pomona residents, businesses and institutions. **Policy 7E.P29.** Continue to monitor water supply and demand to ensure that projections are consistent with the most recent Water and Recycled Water Master Plan, which projects adequate water supply for the City through the year 2025. **Policy 7E.P33.** Require that all new development or expansion of existing facilities bear the cost of expanding the wastewater disposal system to handle the increased loads anticipated by development. **Policy 7E.P34.** Support the efforts of the Sanitation Districts of Los Angeles County and other agencies to provide reclaimed water infrastructure throughout the region. **Goal 7E.G18.** Meet the City's solid waste disposal needs, while maximizing opportunities for waste reduction and recycling. **Policy 7E.P38.** Update the City's Source Reduction and Recycling Element to comply with the Los Angeles County Integrated Waste Management Plan and any changes in state law. **Policy 7E.P39.** Continue and expand public education programs about waste reduction techniques and diversion strategies, such as recycling. The City is currently meeting or exceeding all state-mandated solid waste diversion targets. **Goal 7E.G19.** Ensure adequate energy supply to meet the needs of the City's growing population and economic base. **Goal 7E.G20.** Reduce City-wide energy demand **Goal 7E.G21.** Increase City-wide energy supply from renewable sources. **Policy 7E.P40.** Prepare a Green Plan to guide the City's efforts towards reduced energy use and increased energy efficiency, particularly in support of reducing greenhouse gas emissions. **Policy 7E.P41.** Promote energy efficient patterns of development by implementing the vision of compact, clustered, transit-oriented City structure. **Policy 7E.P42.** Identify districts where district heating can be supplied through cogeneration and work with developers and institutions to implement the system.

Law, Regulation, or Policy	Overview
Los Angeles County General Plan	The Safety Element of the Los Angeles County General Plan (2015) contains the following goals and policies that are relevant to the utilities and service systems impacts analysis for the Proposed Project. **Goal PS/F 1:** A coordinated, reliable, and equitable network of public facilities that preserves resources, ensures public health and safety, and keeps pace with planned development. **Policy PS/F 1.2:** Ensure that adequate services and facilities are provided in conjunction with development through phasing or other mechanisms. **Policy PS/F 1.3:** Ensure coordinated service provision through collaboration between County departments and service providers. **Policy PS/F 1.4:** Ensure the adequate maintenance of infrastructure. **Goal PS/F 3:** Increased local water supplies through the use of new technologies. **Policy PS/F 3.1:** Increase the supply of water though the development of new sources, such as recycled water, gray water, and rainwater harvesting. **Policy PS/F 3.2:** Support the increased production, distribution and use of recycled water, gray water, and rainwater harvesting to provide for groundwater recharge, seawater intrusion barrier injection, irrigation, industrial processes and other beneficial uses. **Goal PS/F 4:** Reliable sewer and urban runoff conveyance treatment systems. **Policy PS/F 4.1:** Encourage the planning and continued development of efficient countywide sewer conveyance treatment systems. **Policy PS/F 4.2:** Support capital improvement plans to improve aging and deficient wastewater systems, particularly in areas where the General Plan encourages development. **Policy PS/F 4.3:** Ensure the proper design of sewage treatment and disposal facilities, especially in landslide, hillside, and other hazard areas. **Policy PS/F 4.4:** Evaluate the potential for treating stormwater runoff in wastewater management systems or through other similar systems and methods. **Goal PS/F 5:** Adequate disposal capacity and minimal waste and pollution. **Goal PS/F 5.1:** Maintain an efficient, safe and responsive waste management system that reduces waste while protecting the health and safety of the public.

Law, Regulation, or Policy	Overview
	Policy PS/F 5.2: Ensure adequate disposal capacity by providing for environmentally sound and technically feasible development of solid waste management facilities, such as landfills and transfer/processing facilities. **Policy PS/F 5.5:** Reduce the County's waste stream by minimizing waste generation and enhancing diversion. **Policy PS/F 5.7:** Encourage the recycling of construction and demolition debris generated by public and private projects. **Policy PS/F 5.8:** Ensure adequate and regular waste and recycling collection services. **Goal PS/F 6:** A County with adequate public utilities. **Policy PS/F 6.1:** Ensure efficient and cost-effective utilities that serve existing and future needs. **Policy PS/F 6.2:** Improve existing wired and wireless telecommunications infrastructure. **Policy PS/F 6.4:** Protect and enhance utility facilities to maintain the safety, reliability, integrity and security of utility services. **Policy PS/F 6.5:** Encourage the use of renewable energy sources in utility and telecommunications networks. **Policy PS/F 6.6:** Encourage the construction of utilities underground, where feasible. **Policy PS/F 6.10:** Encourage utility siting to be localized and decentralized to reduce impacts; reduce transmission losses; promote local conservation by connecting users to their systems more directly; and reduce system malfunctions.
WILDFIRE	
City of Pomona General Plan	The City of Pomona General Plan (2014) contains several goals and policies that are applicable to the wildfire impacts analysis for the Proposed Project. Please refer to Goals 7G.G8 and 7G.G9, and Policies 7G.P20, 7G.P22, and 7G.P24 in the Hazards and Hazardous Materials section for applicable policies and goals related to Wildfire.
City of Pomona Emergency Operations Plan	As stated above in the Hazards and Hazardous Materials section, the City of Pomona's 2011 Emergency Operations Plan (EOP Plan) addresses the City of Pomona's planned response to large-scaled events, including emergency/disaster situations associated with natural disasters, technological incidents, and national security emergencies. The EOP would be applicable to Wildfire as impacts from Wildfire would be considered an emergency/disaster situation.

Law, Regulation, or Policy	Overview
City of Pomona Natural Hazards Mitigation Plan	As stated in Geology, Soils, and Seismicity above, the City of Pomona's 2004 Natural Hazards Mitigation Plan (NHMP) discusses natural hazards and mitigation for these hazards, including hazards resulting from wildfires, which would be applicable to the Proposed Project.
Los Angeles County General Plan	The Los Angeles County General Plan contains three policies that are applicable to the wildlife impacts for the Proposed Project. Please refer to Policies LU 3.2, S 3.4, and S 3.9 in the Hazardous and Hazardous Materials section for applicable policies related to Wildfire.
Los Angeles County All-Hazard Mitigation Plan	As stated in the Hazards and Hazardous Materials section, the County of Los Angeles developed an All-Hazard Mitigation Plan (2014) to cover mitigation responsibilities of County departments and unincorporated communities, and establishes the County's emergency policies and procedures in the event of a disaster (County of Los Angeles 2014). The All-Hazard Mitigation Plan would be applicable to Wildfire as a wildfire could be considered a disaster.

ACRONYMS AND ABBREVIATIONS

AQMP	air quality management plan
ARA	agricultural resource area
BAT	best available technology
CARB	California Air Resources Control Board
CCAP	community climate action plan
CEQA	California Environmental Quality Act
CMP	congestion management plan
CO	carbon monoxide
dB	decibel
GHG	greenhouse gas emissions
HCM	Highway Capacity Manual
LACFD	Los Angeles County Fire Department
LID	low impact development
LOS	level of service
MRZ	mineral resource zone
MS4	municipal separate storm sewer system
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
$PM_{2.5}$	particulate matter of aerodynamic radius of 2.5 micrometers or less
PM_{10}	particulate matter of aerodynamic radius of 10 micrometers or less
SCAQMD	South Coast Air Quality Management District
SEA	significant ecological area
SO_X	oxides of sulfate
TAC	toxic air contaminant
v/c	volume to capacity
VOC	volatile organic compounds

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Appendix B

Air Quality Analysis

Table 1: Construction Emissions
Baldwin Park CHP Facility

Construction Emissions	ROG	NOx	CO	SO_2	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$	CO_2e
	Total Construction Emissions								
	tons								Metric tons
2021	0.354	3.52	2.89	0.00659	0.2789	0.1521	0.1163	0.1425	592
2022	0.3061	0.5902	0.672	0.00137	0.0286	0.0268	0.0077	0.0252	121
Total	0.660	4.110	3.562	0.008	0.308	0.179	0.124	0.168	713
	Peak Daily Emissions (pounds/day)								
Maximum Daily	23.4	67.1	34.5	0.117	20.1	2.1	10.5	2.0	12,297

Notes

1. Emissions are based on CalEEMod defaults for a 5 acre site and 0.52 acres of road/sidewalk improvements.

Table 2: Operational Emissions
Baldwin Park CHP Facility

Operational Source	ROG	NOx	CO	SO_2	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$	CO_2e
	tons/year								Metric tons/year
Area	0.1969	3.00E-05	3.60E-03			1.00E-05		1.00E-05	0.007
Electricity									185.76
Natural Gas	2.74E-03	0.025	0.0209	1.50E-04	--	1.89E-03	--	1.89E-03	27.3
Mobile	0.2852	1.4	5.2073	2.21E-02	1.8711	0.0157	0.5015	0.0146	1,963
Vehicle Idling	0.015544	0.022373	0.04988	--	--	4.91E-05	--	0.001441	91
Refueling Pump	0.11651								
Emergency Generator	3.20E-03	0.014	0.1186	2.60E-04		4.30E-04		4.30E-04	26
Solid Waste									31.3
Water & Wastewater									57.5
Total	**0.62**	**1.46**	**5.40**	**0.02**	**1.87**	**1.81E-02**	**0.50**	**0.02**	**2,381**

Operational Source	ROG	NOx	CO	SO_2	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
	Maximum Pounds per Day							
Area	1.0799	2.60E-04	0.0286	0		1.00E-04		1.00E-04
Electricity								
Natural Gas	1.50E-02	0.1366	0.1147	8.20E-04		1.04E-02	--	1.04E-02
Mobile	1.6314	7.5475	30.3	0.1209	10.48	0.0865	2.805	0.081
Vehicle Idling	0.09	0.27	1.40	--	--	0.01	--	0.01
Refueling Pump	0.638408							
Emergency Generator	0.0646	0.2804	2.3722	5.28E-03		8.63E-03		8.63E-03
Solid Waste								
Water & Wastewater								
Total	**3.51**	**8.24**	**34.22**	**0.13**	**10.48**	**0.11**	**2.81**	**0.11**

Table 3: Refueling Pump Emissions
Baldwin Park CHP Facility

	Emission Factors					Annual Emissions				
Emission Source Category	ROG	Benzene	Ethyl Benzene	Toulene	Xylene	ROG	Benzene	Ethyl Benzene	Toulene	Xylene
	pounds/1000gallon					pounds				
Loading	0.42	0.00126				64.26	0.19278			
Breathing	0.053	0.000159				8.109	0.024327			
Refueling	0.63	0.00189				96.39	0.28917			
Spillage	0.42	0.0042	0.00672	0.0336	0.01	64.26	0.6426	1.02816	5.1408	1.54224

Notes
1. The tanks are assumed to be Above Ground Storage Tanks with Phase II vapor recovery systems.
2. Emission factors are based on CAPCOA 1997.
3. The liquid percentage of benzene was 1.0, ethyl benzene 1.6, toluene 8.0, xylene 2.4 based on CAPCOA 1997. MTBE is no longer in gasoline.
4. The vapor percentage of benzene was 0.3 based on CAPCOA 1997.
5. Throughput for Baldwin Park was assumed to be 153,000 gallons per year.

Source

CAPCOA. 1997. Gasoline Service Station Industrywide Risk Assessment Guidelines.

Table 4: Vehicle Idling Emissions
Baldwin Park CHP Facility

		ROG	TOG	NOx	CO	SO_2	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$	CO_2e
Emission Factors		grams/hour									
	CHP vehicle	0.756400477	1.103286	1.16726178	12.9442194	--	--	0.080238	--	0.073780013	4882.98179
	Trucks	2.327596088	2.649791	67.9438273	13.7439142	--	--	0.041764	--	0.039957603	14738.02103
Vehicle Emissions		tons/year									Metric tons/year
	CHP vehicle	0.015	0.021	0.023	0.250	--	--	0.00003	--	0.001	85.550
	Trucks	0.001	0.001	0.027	0.006	--	--	0.00002	--	0.000	5.379
		pounds/day									
	CHP vehicle	0.08	0.12	0.12	1.37	--	--	0.01	--	0.01	516.73
	Trucks	0.01	0.01	0.15	0.03	--	--	0.00	--	0.00	32.49

Notes:
1. Based on EMFAC 2014 Emission Rates to be consistent with CalEEMod emission factors.
2. It was assumed 2 worker vehicles idling 24 hours per day. It was conservatively assumed that this was equivalent to a LDT1.
3. It was assumed that HHDT would idle for up to 1 hour per day.
4. Emissions for SO2 and lead are neglible given fuel regulations limiting the content of sulfur and lead.

Toxic Air Components	EMFAC TOG Speciation[1]	Emission Rate (pounds/hr)	Acute REL[2] (m^3/ug)	Chronic REL[2] (m^3/ug)	Cancer Potency Factor[2] (kg-day/mg)
Acetaldehyde	0.0028	6.81543E-07	470	140	1.00E-02
Acrolein	0.0013	3.16431E-07	2.5	0.35	
Benzene	0.0247	6.01218E-06	27	3	1.00E-01
1,3-Butadiene	0.0055	1.33874E-06		20	6.00E-01
Ethylbenzene	0.0105	2.55578E-06		2000	8.70E-03
Formaldehyde	0.0158	3.84585E-06	55	9	2.10E-02
Hexane	0.016	3.89453E-06		7000	
Methanol	0.0012	2.9209E-07	28000	4000	
Methyl Ethyl Ketone	0.0002	4.86816E-08	13000		
Naphthalene	0.0005	1.21704E-07		9	1.20E-01
Propylene	0.0306	7.44829E-06		3000	
Styrene	0.0012	2.9209E-07	21000	900	
Toluene	0.0576	1.40203E-05	37000	300	
Xylenes	0.048	1.16836E-05	22000	700	

Notes:
1. TOG Speciation from BAAQMD 2012.
2. Toxicity factors are based on the latest values published by OEHHA.

Sources:

BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards.

OEHHA. 2014. All OEHHA Acute, 8-hour and Chronic Reference Exposure Levels (chRELs) as of June 2014.

OEHHA. 2009. Hot Spots Unit Risk and Cancer Potency Values.

Operational Emissions
Existing Baldwin Park CHP Facility

Operational Source	ROG	NOx	CO	SO_2	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$	CO_2e
	tons/year								Metric tons/year
Area	0.0365	0	1.20E-04	0		0		0	2.40E-04
Electricity									43.7
Natural Gas	6.00E-04	5.46E-03	4.59E-03	3.00E-05	--	4.20E-04	--	4.20E-04	5.98
Mobile	0.3464	2.2379	6.1918	2.17E-02	1.7359	0.0249	0.4652	0.0234	1,996.18
Vehicle Idling	0.015544	0.02237335	0.04988	--	--	4.90869E-05	--	0.001440954	91
Refueling Pump	0.11651								
Emergency Generator	--	--	--	--	--	--	--	--	--
Solid Waste									6.1907
Water & Wastewater									9.3846
Total	**0.52**	**2.27**	**6.25**	**0.02**	**1.74**	**2.54E-02**	**0.47**	**0.03**	**2,152**

Operational Source	ROG	NOx	CO	SO_2	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
	Maximum Pounds per Day							
Area	0.2003	1.00E-05	9.20E-04	0		0		0
Electricity								
Natural Gas	3.29E-03	2.99E-02	2.52E-02	1.80E-04	--	2.28E-03	--	2.28E-03
Mobile	2.0022	11.616	36.4262	0.124	9.71	0.1366	2.5995	0.1286
Vehicle Idling	0.09	0.27	1.40	--	--	0.01	--	0.01
Refueling Pump	0.638408							
Emergency Generator	--	--	--	--	--	--	--	--
Solid Waste								
Water & Wastewater								
Total	**2.93**	**11.92**	**37.85**	**0.12**	**10**	**0.15**	**2.60**	**0.14**

Fuel Consumption Summary

Construction Fuel Consumption	**Gasoline**	**Diesel**
Construction On-Road Vehicles	11,158	13,527
Construction Off-Road Equipment		49,882
Total For Construction	**11,158**	**63,409**
Annual Project Fuel Consumption	**Gasoline**	**Diesel**
On-Road Vehicles	-	-
Off-Road Equipment and Stationary Sources		2,525
Total for Annual Operation	**-**	**2,525**
	Electricity kWhr	**Natural Gas Kbtu**
Building Energy Use	580,923	508503
Water Use	147,643	

									Gasoline		Diesel	
	Phase	**Vehicle Type**	**Construction Phase Days**	**Trips Per Day**	**Total Trips**	**Miles Per Trip**	**Total Miles**	**Fuel Type**	**Weighted Fuel Economy (miles/gallon)**	**Fuel Consumption (gallons)**	**Weighted Fuel Economy (miles/gallon)**	**Fuel Consumption (gallons)**
Construction On-Road Vehicles	Demolition	Worker	20	15	300	14.7	4,410	LDA,LDT1, LD	26.12219082	167.77	33.23189398	0.83
		Vendor	20	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			16	20	320	HHDT			5.988933588	53
	Site Preparation	Worker	10	18	180	14.7	2,646	LDA,LDT1, LD	26.12219082	100.66	33.23189398	0.50
		Vendor	10	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			988	20	19,760	HHDT			5.988933588	3,299
	Grading	Worker	20	15	300	14.7	4,410	LDA,LDT1, LD	26.12219082	167.77	33.23189398	0.83
		Vendor	20	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			988	20	19,760	HHDT			5.988933588	3,299
	Trenching	Worker	27	30	810	14.7	11,907	LDA,LDT1, LD	26.12219082	452.98	33.23189398	2.23
		Vendor	27	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			0	20	-	HHDT			5.988933588	-
	Building Construction	Worker	230	76	17480	14.7	256,956	LDA,LDT1, LD	26.12219082	9,775.41	33.23189398	48.18
		Vendor	230	31	7130	6.9	49,197	HHDT, MHDT			7.256849012	6,779
		Hauling			0	20	-	HHDT			5.988933588	-
	Paving	Worker	20	15	300	14.7	4,410	LDA,LDT1, LD	26.12219082	167.77	33.23189398	0.83
		Vendor	20	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			0	20	-	HHDT			5.988933588	-
	Milling and Striping	Worker	15	18	270	14.7	3,969	LDA,LDT1, LD	26.12219082	150.99	33.23189398	0.74
		Vendor	15	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			12	20	240	HHDT			5.988933588	40
	Utility Boring	Worker	4	3	12	14.7	176	LDA,LDT1, LD	26.12219082	6.71	33.23189398	0.03
		Vendor	4	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			0	20	-	HHDT			5.988933588	-
	Architectural Coating	Worker	20	15	300	14.7	4,410	LDA,LDT1, LD	26.12219082	167.77	33.23189398	0.83
		Vendor	20	0	0	6.9	-	HHDT, MHDT			7.256849012	-
		Hauling			0	20	-	HHDT			5.988933588	-
									Total Fuel Consumption (Gallons)	11,157.83		13,526.72

Notes:

1. Fuel Consumption is total miles multiplied by the percent gasoline or diesel respectively and then divided by fuel economy. It was assumed all MHDT and HHDT are diesel. LDA, LDT1, and LDT2 were assumed to be a mix of gasoline and diesel as ratioed by their VMT.

	LDA,LDT1,LDT2	MHDT	HHDT
Gasoline %	99.38%	0	0
Diesel %	0.62%	1	1

	Offroad Equipment Type	Amount	Days in Phase	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate lb/hp-hr	Diesel Fuel Consumption (gallons)
Demolition	Concrete/Industrial Saws	1	20	8	81	0.73	0.408	543
Demolition	Excavators	3	20	8	158	0.38	0.367	1,488
Demolition	Rubber Tired Dozers	2	20	8	247	0.4	0.367	1,632
Site Preparation	Rubber Tired Dozers	3	10	8	247	0.4	0.367	1,224
Site Preparation	Tractors/Loaders/Backhoes	4	10	8	97	0.37	0.408	659
Grading	Excavators	1	20	8	158	0.38	0.367	496
Grading	Graders	1	20	8	187	0.41	0.367	633
Grading	Rubber Tired Dozers	1	20	8	247	0.4	0.367	816
Grading	Tractors/Loaders/Backhoes	3	20	8	97	0.37	0.408	989
Trenching for Utilities	Air Compressors	1	27	8	78	0.48	0.408	464
Trenching for Utilities	Generator Sets	1	27	8	84	0.74	0.408	771
Trenching for Utilities	Graders	1	27	8	187	0.41	0.367	855
Trenching for Utilities	Plate Compactors	1	27	8	8	0.43	0.408	43
Trenching for Utilities	Pumps	1	27	8	84	0.74	0.408	771
Trenching for Utilities	Rough Terrain Forklifts	1	27	8	100	0.4	0.367	446
Trenching for Utilities	Scrapers	2	27	8	367	0.48	0.367	3,929
Trenching for Utilities	Signal Boards	2	27	8	6	0.82	0.408	122
Trenching for Utilities	Tractors/Loaders/Backhoes	2	27	8	97	0.37	0.408	890
Building	Cranes	1	230	7	231	0.29	0.367	5,568
Milling and Striping	Dumpers/Tenders	2	15	5	16	0.38	0.408	52
	Pavers	1	15	2	130	0.42	0.367	85
	Paving Equipment	3	15	3	132	0.36	0.367	331
	Rollers	1	15	2	80	0.38	0.408	52
Utility Boring	Boring	1	4	8	221	0.5	0.367	183
Building	Forklifts	3	230	8	89	0.2	0.408	5,639
Building	Generator Sets	1	230	8	84	0.74	0.408	6,564
Building	Tractors/Loaders/Backhoes	3	230	7	97	0.37	0.408	9,949
Building	Welders	1	230	8	46	0.45	0.408	2,186
Paving	Pavers	2	20	8	130	0.42	0.367	902
Paving	Paving Equipment	2	20	8	132	0.36	0.367	785
Paving	Rollers	2	20	8	80	0.38	0.408	558
Architectural Coating	Air Compressor	1	20	6	78	0.48	0.408	258
Total Diesel Fuel Use from Construction Off-Road								49,882

1. Equipment list is from CalEEMod.
2. Fuel Consumption is 0.408 for less than 100 hp and .367 if greater than or equal to 100 hp based on CARB Off-Road Diesel Engine Emission Factors
3. To convert to gallons the conversion factor of 7.1089 lb/fallon is used
4. Fuel consumption is amount multiplied by usage hours, days in phase, horsepower, loadfactor, and fuel consumption rate divided by conversion factor.

Operational On-road Fuel Consumption

	12	15	18	25	20	22	29	10	31	35	24	33	27	
	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHDT	OBUS	UBUS	MCY	SBUS	MH	
Fleet Mix	0.545842	0.044768	0.205288	0.119317	0.01535	0.006227	0.02046	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862	
Gaoline VMT	125,280,774	11,022,591	50,526,060	28,787,027	1,759,001	516,949	643,306	76,198	268,145	175,872	1,278,541	58,409	169,017	
Diesel VMT	1,411,590	10,687	103,452	639,733	2,026,645	1,018,840	4,402,780	7,651,296	359,717	350,104	28,787,027	112,162	43,478	
Gasoline Fuel Consumption	4,298.99	448.27	2,275.07	1,751.87	159.28	50.10	91.55	15.86	37.52	34.69	37.23	5.06	23.12	
Diesel Fuel Consumption	36.18	0.39	3.49	27.74	96.57	53.06	502.91	1,255.39	48.28	72.92	1,751.87	15.43	4.26	
Gasoline Fuel Economy	29.14	24.59	22.21	16.43	11.04	10.32	7.03	4.80	7.15	5.07	34.34	11.54	7.31	
Diesel Fuel Economy	39.01	27.18	29.67	23.06	20.99	19.20	8.75	6.09	7.45	4.80	16.43	7.27	10.22	
Gasoline %	98.89%	99.90%	99.80%	97.83%	46.47%	33.66%	12.75%	0.99%	42.71%	33.44%	4.25%	34.24%	79.54%	
Diesel %	1.11%	0.10%	0.20%	2.17%	53.53%	66.34%	87.25%	99.01%	57.29%	66.56%	95.75%	65.76%	20.46%	
Gasoline Annual Project Miles	2,660,915	220,484	1,009,963	575,422	35,161	10,333	12,859	1,523	5,360	3,516	1,087	1,168	3,380	
Diesel Annual Project Miles	29,982	214	2,068	12,788	40,511	20,365	88,005	152,943	7,191	6,999	24,469	2,243	869	**Total**
Project Gasoline Consumption	91,309	8,967	45,476	35,018	3,184	1,001	1,830	317	750	693	32	101	462	189,141
Project Diesel Consumption	769	8	70	555	1,930	1,061	10,053	25,094	965	1,458	1,489	309	85	43,844

Notes:

1. The fleet mix was the default for the area from CalEEMod.
2. The VMT is the total VMT in miles from EMFAC and the Fuel Consumption is the total Fuel Consumption from EMFAC in 1000 gallons.
3. Fuel Economy is the Total VMT divided Fuel Consumption and 100 unit conversion and is miles per gallon.
4. The total Project VMT per year as estimated in CalEEMod is: 4,929,809 miles.

	Amount	Days in Phase	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate lb/hp-hr	Diesel Fuel Consumption (gallons)
Emergency Generator	1	100	1	670	0.73	0.367	2,525
Total Diesel Fuel Use from Equipment							2,525

1. Equipment list is from CalEEMod.
2. Fuel Consumption is 0.408 for less than 100 hp and .367 if greater than or equal to 100 hp based on CARB Off-Road Diesel Engine Emission Factors
3. To convert to gallons the conversion factor of 7.1089 lb/gallon is used
4. Fuel consumption is amount multiplied by usage hours, days in phase, horsepower, loadfactor, and fuel consumption rate divided by conversion factor.

CHP Baldwin Park

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	36.70	1000sqft	1.99	36,700.00	0
Unrefrigerated Warehouse-No Rail	1.80	1000sqft	0.04	1,800.00	0
Other Asphalt Surfaces	65.00	1000sqft	1.49	65,000.00	0
Other Asphalt Surfaces	22.70	1000sqft	0.52	22,700.00	0
Parking Lot	147.00	Space	1.32	58,800.00	0
Automobile Care Center	6.90	1000sqft	0.16	6,900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Adjusted Other Asphalt Surfaces to reach total impervious surface area. Lot Acreage for General Office Building adjusted to reach lot acreage of 5 ac. Then added sidewalk and street improvements

Construction Phase - Trenching added to reflect PD. Milling and Utility Boring added based on Pers Comm.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment from Pers Comm

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment Assumptions from RoadMod

Off-road Equipment - Assumed 1 Borer

Trips and VMT - 12 Hauling Trips added for Milling based on Pers Comm

Demolition - Estimate for removal of trees and concrete

Grading - Values from Pers Comm, Updated 11/19/19 to include additional material import

Vehicle Trips - Values updated based on Trip Table Air Study spreadsheet

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - Updated to reflect Tier 4 Final values

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	15.00
tblGrading	MaterialImported	0.00	7,901.00
tblGrading	MaterialImported	0.00	7,901.00
tblLandUse	LotAcreage	0.84	1.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Utility Boring
tblOffRoadEquipment	PhaseName		Milling and Striping
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblStationaryGeneratorsPumpsEF	CO_EF	2.60	2.20

tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	0.26
tblStationaryGeneratorsPumpsEF	PM10_EF	0.15	8.0000e-003
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.15	8.0000e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	1.3200e-004
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblVehicleTrips	CC_TTP	48.00	47.00
tblVehicleTrips	CNW_TTP	19.00	6.00
tblVehicleTrips	CW_TL	16.60	37.40
tblVehicleTrips	CW_TTP	33.00	47.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	2.46	16.82
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	1.05	16.82
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	11.03	16.82
tblVehicleTrips	WD_TR	1.68	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3536	3.5198	2.8889	6.5900e-003	0.2789	0.1521	0.4311	0.1163	0.1425	0.2588	0.0000	589.8694	589.8694	0.1058	0.0000	592.5151
2022	0.3061	0.5902	0.6718	1.3700e-003	0.0286	0.0268	0.0554	7.7000e-003	0.0252	0.0328	0.0000	121.0387	121.0387	0.0230	0.0000	121.6141
Maximum	**0.3536**	**3.5198**	**2.8889**	**6.5900e-003**	**0.2789**	**0.1521**	**0.4311**	**0.1163**	**0.1425**	**0.2588**	**0.0000**	**589.8694**	**589.8694**	**0.1058**	**0.0000**	**592.5151**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3536	3.5198	2.8889	6.5900e-003	0.2789	0.1521	0.4311	0.1163	0.1425	0.2588	0.0000	589.8689	589.8689	0.1058	0.0000	592.5147
2022	0.3061	0.5902	0.6718	1.3700e-003	0.0286	0.0268	0.0554	7.7000e-003	0.0252	0.0328	0.0000	121.0386	121.0386	0.0230	0.0000	121.6140
Maximum	**0.3536**	**3.5198**	**2.8889**	**6.5900e-003**	**0.2789**	**0.1521**	**0.4311**	**0.1163**	**0.1425**	**0.2588**	**0.0000**	**589.8689**	**589.8689**	**0.1058**	**0.0000**	**592.5147**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.4514	1.4514
2	**4-1-2021**	**6-30-2021**	0.9055	0.9055
3	**7-1-2021**	**9-30-2021**	0.7553	0.7553
4	**10-1-2021**	**12-31-2021**	0.7572	0.7572
5	**1-1-2022**	**3-31-2022**	0.6006	0.6006
6	**4-1-2022**	**6-30-2022**	0.2879	0.2879
		Highest	1.4514	1.4514

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1969	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.4100e-003
Energy	2.7400e-003	0.0249	0.0209	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	212.2302	212.2302	8.1600e-003	2.0800e-003	213.0536
Mobile	0.2852	1.4000	5.2073	0.0212	1.8711	0.0157	1.8868	0.5015	0.0146	0.5161	0.0000	1,960.6446	1,960.6446	0.0909	0.0000	1,962.9177
Stationary	3.2300e-003	0.0140	0.1186	2.6000e-004		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	25.5134	25.5134	3.5800e-003	0.0000	25.6028
Waste						0.0000	0.0000		0.0000	0.0000	12.6220	0.0000	12.6220	0.7459	0.0000	31.2704
Water						0.0000	0.0000		0.0000	0.0000	2.4074	47.0422	49.4496	0.2492	6.2400e-003	57.5394
Total	**0.4881**	**1.4390**	**5.3504**	**0.0216**	**1.8711**	**0.0180**	**1.8891**	**0.5015**	**0.0170**	**0.5185**	**15.0294**	**2,245.4374**	**2,260.4667**	**1.0978**	**8.3200e-003**	**2,290.3913**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1969	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.4100e-003
Energy	2.7400e-003	0.0249	0.0209	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	212.2302	212.2302	8.1600e-003	2.0800e-003	213.0536
Mobile	0.2852	1.4000	5.2073	0.0212	1.8711	0.0157	1.8868	0.5015	0.0146	0.5161	0.0000	1,960.6446	1,960.6446	0.0909	0.0000	1,962.9177
Stationary	3.2300e-003	0.0140	0.1186	2.6000e-004		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	25.5134	25.5134	3.5800e-003	0.0000	25.6028
Waste						0.0000	0.0000		0.0000	0.0000	12.6220	0.0000	12.6220	0.7459	0.0000	31.2704
Water						0.0000	0.0000		0.0000	0.0000	2.4074	47.0422	49.4496	0.2492	6.2400e-003	57.5394
Total	**0.4881**	**1.4390**	**5.3504**	**0.0216**	**1.8711**	**0.0180**	**1.8891**	**0.5015**	**0.0170**	**0.5185**	**15.0294**	**2,245.4374**	**2,260.4667**	**1.0978**	**8.3200e-003**	**2,290.3913**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/11/2021	5	20	
4	Trenching for Utilities	Trenching	3/12/2021	4/19/2021	5	27	
5	Building Construction	Building Construction	4/20/2021	3/7/2022	5	230	
6	Paving	Paving	3/8/2022	4/4/2022	5	20	
7	Milling and Striping	Paving	4/5/2022	4/25/2022	5	15	
8	Utility Boring	Trenching	4/26/2022	4/29/2022	5	4	
9	Architectural Coating	Architectural Coating	5/2/2022	5/27/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 3.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 68,100; Non-Residential Outdoor: 22,700; Striped Parking Area: 8,790 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Trenching for Utilities	Air Compressors	1	8.00	78	0.48
Trenching for Utilities	Generator Sets	1	8.00	84	0.74
Trenching for Utilities	Graders	1	8.00	187	0.41
Trenching for Utilities	Plate Compactors	1	8.00	8	0.43
Trenching for Utilities	Pumps	1	8.00	84	0.74
Trenching for Utilities	Rough Terrain Forklifts	1	8.00	100	0.40
Trenching for Utilities	Scrapers	2	8.00	367	0.48
Trenching for Utilities	Signal Boards	2	8.00	6	0.82
Trenching for Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching for Utilities	Trenchers	0	8.00	78	0.50
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Utility Boring	Bore/Drill Rigs	1	8.00	221	0.50
Milling and Striping	Dumpers/Tenders	2	5.00	16	0.38
Milling and Striping	Pavers	1	2.00	130	0.42
Milling and Striping	Paving Equipment	3	3.00	132	0.36
Milling and Striping	Rollers	1	2.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	16.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	988.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	988.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching for Utilities	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	76.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Milling and Striping	7	18.00	0.00	12.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Boring	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7700e-003	0.0000	1.7700e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**1.7700e-003**	**0.0155**	**0.0173**	**2.7000e-004**	**0.0144**	**0.0147**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.2100e-003	5.2000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.6098	0.6098	4.0000e-005	0.0000	0.6109
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**7.2000e-004**	**2.7100e-003**	**6.1900e-003**	**3.0000e-005**	**1.7800e-003**	**2.0000e-005**	**1.8000e-003**	**4.8000e-004**	**2.0000e-005**	**4.9000e-004**	**0.0000**	**2.0932**	**2.0932**	**8.0000e-005**	**0.0000**	**2.0954**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7700e-003	0.0000	1.7700e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**1.7700e-003**	**0.0155**	**0.0173**	**2.7000e-004**	**0.0144**	**0.0147**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.2100e-003	5.2000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.6098	0.6098	4.0000e-005	0.0000	0.6109
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**7.2000e-004**	**2.7100e-003**	**6.1900e-003**	**3.0000e-005**	**1.7800e-003**	**2.0000e-005**	**1.8000e-003**	**4.8000e-004**	**2.0000e-005**	**4.9000e-004**	**0.0000**	**2.0932**	**2.0932**	**8.0000e-005**	**0.0000**	**2.0954**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0908	0.0000	0.0908	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0908**	**0.0102**	**0.1010**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1600e-003	0.1368	0.0319	3.8000e-004	8.4900e-003	4.1000e-004	8.9000e-003	2.3300e-003	3.9000e-004	2.7200e-003	0.0000	37.6574	37.6574	2.6100e-003	0.0000	37.7228
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**4.5500e-003**	**0.1371**	**0.0353**	**3.9000e-004**	**9.4800e-003**	**4.2000e-004**	**9.8900e-003**	**2.5900e-003**	**4.0000e-004**	**2.9900e-003**	**0.0000**	**38.5475**	**38.5475**	**2.6400e-003**	**0.0000**	**38.6135**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0908	0.0000	0.0908	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0908**	**0.0102**	**0.1010**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1600e-003	0.1368	0.0319	3.8000e-004	8.4900e-003	4.1000e-004	8.9000e-003	2.3300e-003	3.9000e-004	2.7200e-003	0.0000	37.6574	37.6574	2.6100e-003	0.0000	37.7228
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**4.5500e-003**	**0.1371**	**0.0353**	**3.9000e-004**	**9.4800e-003**	**4.2000e-004**	**9.8900e-003**	**2.5900e-003**	**4.0000e-004**	**2.9900e-003**	**0.0000**	**38.5475**	**38.5475**	**2.6400e-003**	**0.0000**	**38.6135**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0660	0.0000	0.0660	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0660**	**0.0116**	**0.0776**	**0.0337**	**0.0107**	**0.0444**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1600e-003	0.1368	0.0319	3.8000e-004	8.4900e-003	4.1000e-004	8.9000e-003	2.3300e-003	3.9000e-004	2.7200e-003	0.0000	37.6574	37.6574	2.6100e-003	0.0000	37.7228
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**4.8100e-003**	**0.1373**	**0.0376**	**4.0000e-004**	**0.0101**	**4.2000e-004**	**0.0106**	**2.7700e-003**	**4.0000e-004**	**3.1700e-003**	**0.0000**	**39.1408**	**39.1408**	**2.6500e-003**	**0.0000**	**39.2073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0660	0.0000	0.0660	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0660**	**0.0116**	**0.0776**	**0.0337**	**0.0107**	**0.0444**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1600e-003	0.1368	0.0319	3.8000e-004	8.4900e-003	4.1000e-004	8.9000e-003	2.3300e-003	3.9000e-004	2.7200e-003	0.0000	37.6574	37.6574	2.6100e-003	0.0000	37.7228
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**4.8100e-003**	**0.1373**	**0.0376**	**4.0000e-004**	**0.0101**	**4.2000e-004**	**0.0106**	**2.7700e-003**	**4.0000e-004**	**3.1700e-003**	**0.0000**	**39.1408**	**39.1408**	**2.6500e-003**	**0.0000**	**39.2073**

3.5 Trenching for Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0539	0.5686	0.4489	8.9000e-004		0.0245	0.0245		0.0231	0.0231	0.0000	76.7583	76.7583	0.0192	0.0000	77.2374
Total	**0.0539**	**0.5686**	**0.4489**	**8.9000e-004**		**0.0245**	**0.0245**		**0.0231**	**0.0231**	**0.0000**	**76.7583**	**76.7583**	**0.0192**	**0.0000**	**77.2374**

3.5 Trenching for Utilities - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.3600e-003	0.0153	4.0000e-005	4.4400e-003	4.0000e-005	4.4700e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	4.0051	4.0051	1.2000e-004	0.0000	4.0081
Total	**1.7400e-003**	**1.3600e-003**	**0.0153**	**4.0000e-005**	**4.4400e-003**	**4.0000e-005**	**4.4700e-003**	**1.1800e-003**	**3.0000e-005**	**1.2100e-003**	**0.0000**	**4.0051**	**4.0051**	**1.2000e-004**	**0.0000**	**4.0081**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0539	0.5686	0.4489	8.9000e-004		0.0245	0.0245		0.0231	0.0231	0.0000	76.7582	76.7582	0.0192	0.0000	77.2373
Total	**0.0539**	**0.5686**	**0.4489**	**8.9000e-004**		**0.0245**	**0.0245**		**0.0231**	**0.0231**	**0.0000**	**76.7582**	**76.7582**	**0.0192**	**0.0000**	**77.2373**

3.5 Trenching for Utilities - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.3600e-003	0.0153	4.0000e-005	4.4400e-003	4.0000e-005	4.4700e-003	1.1800e-003	3.0000e-005	1.2100e-003	0.0000	4.0051	4.0051	1.2000e-004	0.0000	4.0081
Total	**1.7400e-003**	**1.3600e-003**	**0.0153**	**4.0000e-005**	**4.4400e-003**	**4.0000e-005**	**4.4700e-003**	**1.1800e-003**	**3.0000e-005**	**1.2100e-003**	**0.0000**	**4.0051**	**4.0051**	**1.2000e-004**	**0.0000**	**4.0081**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1749	1.6038	1.5249	2.4800e-003		0.0882	0.0882		0.0829	0.0829	0.0000	213.1063	213.1063	0.0514	0.0000	214.3916
Total	**0.1749**	**1.6038**	**1.5249**	**2.4800e-003**		**0.0882**	**0.0882**		**0.0829**	**0.0829**	**0.0000**	**213.1063**	**213.1063**	**0.0514**	**0.0000**	**214.3916**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8600e-003	0.2815	0.0763	7.3000e-004	0.0180	5.7000e-004	0.0185	5.1800e-003	5.5000e-004	5.7300e-003	0.0000	70.3008	70.3008	4.3100e-003	0.0000	70.4086
Worker	0.0301	0.0234	0.2644	7.7000e-004	0.0766	6.3000e-004	0.0773	0.0204	5.8000e-004	0.0209	0.0000	69.1451	69.1451	2.0300e-003	0.0000	69.1960
Total	**0.0389**	**0.3049**	**0.3407**	**1.5000e-003**	**0.0946**	**1.2000e-003**	**0.0958**	**0.0255**	**1.1300e-003**	**0.0267**	**0.0000**	**139.4459**	**139.4459**	**6.3400e-003**	**0.0000**	**139.6046**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1749	1.6038	1.5249	2.4800e-003		0.0882	0.0882		0.0829	0.0829	0.0000	213.1060	213.1060	0.0514	0.0000	214.3914
Total	**0.1749**	**1.6038**	**1.5249**	**2.4800e-003**		**0.0882**	**0.0882**		**0.0829**	**0.0829**	**0.0000**	**213.1060**	**213.1060**	**0.0514**	**0.0000**	**214.3914**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8600e-003	0.2815	0.0763	7.3000e-004	0.0180	5.7000e-004	0.0185	5.1800e-003	5.5000e-004	5.7300e-003	0.0000	70.3008	70.3008	4.3100e-003	0.0000	70.4086
Worker	0.0301	0.0234	0.2644	7.7000e-004	0.0766	6.3000e-004	0.0773	0.0204	5.8000e-004	0.0209	0.0000	69.1451	69.1451	2.0300e-003	0.0000	69.1960
Total	**0.0389**	**0.3049**	**0.3407**	**1.5000e-003**	**0.0946**	**1.2000e-003**	**0.0958**	**0.0255**	**1.1300e-003**	**0.0267**	**0.0000**	**139.4459**	**139.4459**	**6.3400e-003**	**0.0000**	**139.6046**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0392	0.3592	0.3764	6.2000e-004		0.0186	0.0186		0.0175	0.0175	0.0000	53.2968	53.2968	0.0128	0.0000	53.6160
Total	**0.0392**	**0.3592**	**0.3764**	**6.2000e-004**		**0.0186**	**0.0186**		**0.0175**	**0.0175**	**0.0000**	**53.2968**	**53.2968**	**0.0128**	**0.0000**	**53.6160**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0800e-003	0.0669	0.0181	1.8000e-004	4.4900e-003	1.3000e-004	4.6200e-003	1.3000e-003	1.2000e-004	1.4200e-003	0.0000	17.4208	17.4208	1.0400e-003	0.0000	17.4469
Worker	7.0500e-003	5.2900e-003	0.0609	1.8000e-004	0.0192	1.5000e-004	0.0193	5.0900e-003	1.4000e-004	5.2300e-003	0.0000	16.6786	16.6786	4.6000e-004	0.0000	16.6901
Total	**9.1300e-003**	**0.0721**	**0.0790**	**3.6000e-004**	**0.0236**	**2.8000e-004**	**0.0239**	**6.3900e-003**	**2.6000e-004**	**6.6500e-003**	**0.0000**	**34.0995**	**34.0995**	**1.5000e-003**	**0.0000**	**34.1370**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0392	0.3592	0.3764	6.2000e-004		0.0186	0.0186		0.0175	0.0175	0.0000	53.2967	53.2967	0.0128	0.0000	53.6160
Total	**0.0392**	**0.3592**	**0.3764**	**6.2000e-004**		**0.0186**	**0.0186**		**0.0175**	**0.0175**	**0.0000**	**53.2967**	**53.2967**	**0.0128**	**0.0000**	**53.6160**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0800e-003	0.0669	0.0181	1.8000e-004	4.4900e-003	1.3000e-004	4.6200e-003	1.3000e-003	1.2000e-004	1.4200e-003	0.0000	17.4208	17.4208	1.0400e-003	0.0000	17.4469
Worker	7.0500e-003	5.2900e-003	0.0609	1.8000e-004	0.0192	1.5000e-004	0.0193	5.0900e-003	1.4000e-004	5.2300e-003	0.0000	16.6786	16.6786	4.6000e-004	0.0000	16.6901
Total	**9.1300e-003**	**0.0721**	**0.0790**	**3.6000e-004**	**0.0236**	**2.8000e-004**	**0.0239**	**6.3900e-003**	**2.6000e-004**	**6.6500e-003**	**0.0000**	**34.0995**	**34.0995**	**1.5000e-003**	**0.0000**	**34.1370**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	4.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0154**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.7 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	5.2300e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4312	1.4312	4.0000e-005	0.0000	1.4322
Total	**6.1000e-004**	**4.5000e-004**	**5.2300e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4312**	**1.4312**	**4.0000e-005**	**0.0000**	**1.4322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	4.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0154**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.7 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	5.2300e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4312	1.4312	4.0000e-005	0.0000	1.4322
Total	**6.1000e-004**	**4.5000e-004**	**5.2300e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4312**	**1.4312**	**4.0000e-005**	**0.0000**	**1.4322**

3.8 Milling and Striping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8900e-003	0.0262	0.0327	6.0000e-005		1.2500e-003	1.2500e-003		1.1600e-003	1.1600e-003	0.0000	4.7443	4.7443	1.4200e-003	0.0000	4.7799
Paving	4.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.2500e-003**	**0.0262**	**0.0327**	**6.0000e-005**		**1.2500e-003**	**1.2500e-003**		**1.1600e-003**	**1.1600e-003**	**0.0000**	**4.7443**	**4.7443**	**1.4200e-003**	**0.0000**	**4.7799**

3.8 Milling and Striping - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.5400e-003	3.8000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4519	0.4519	3.0000e-005	0.0000	0.4527
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.7000e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2881	1.2881	4.0000e-005	0.0000	1.2890
Total	**5.9000e-004**	**1.9500e-003**	**5.0800e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.7401**	**1.7401**	**7.0000e-005**	**0.0000**	**1.7417**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8900e-003	0.0262	0.0327	6.0000e-005		1.2500e-003	1.2500e-003		1.1600e-003	1.1600e-003	0.0000	4.7443	4.7443	1.4200e-003	0.0000	4.7799
Paving	4.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.2500e-003**	**0.0262**	**0.0327**	**6.0000e-005**		**1.2500e-003**	**1.2500e-003**		**1.1600e-003**	**1.1600e-003**	**0.0000**	**4.7443**	**4.7443**	**1.4200e-003**	**0.0000**	**4.7799**

3.8 Milling and Striping - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.5400e-003	3.8000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4519	0.4519	3.0000e-005	0.0000	0.4527
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.7000e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2881	1.2881	4.0000e-005	0.0000	1.2890
Total	**5.9000e-004**	**1.9500e-003**	**5.0800e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.7401**	**1.7401**	**7.0000e-005**	**0.0000**	**1.7417**

3.9 Utility Boring - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5000e-004	4.5300e-003	4.0800e-003	2.0000e-005		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	1.6575	1.6575	5.4000e-004	0.0000	1.6709
Total	**4.5000e-004**	**4.5300e-003**	**4.0800e-003**	**2.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**1.6575**	**1.6575**	**5.4000e-004**	**0.0000**	**1.6709**

3.9 Utility Boring - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0573	0.0573	0.0000	0.0000	0.0573
Total	**2.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0573**	**0.0573**	**0.0000**	**0.0000**	**0.0573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5000e-004	4.5300e-003	4.0800e-003	2.0000e-005		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	1.6575	1.6575	5.4000e-004	0.0000	1.6709
Total	**4.5000e-004**	**4.5300e-003**	**4.0800e-003**	**2.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**1.6575**	**1.6575**	**5.4000e-004**	**0.0000**	**1.6709**

3.9 Utility Boring - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0573	0.0573	0.0000	0.0000	0.0573
Total	**2.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0573**	**0.0573**	**0.0000**	**0.0000**	**0.0573**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2308					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2329**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.10 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	5.2300e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4312	1.4312	4.0000e-005	0.0000	1.4322
Total	**6.1000e-004**	**4.5000e-004**	**5.2300e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4312**	**1.4312**	**4.0000e-005**	**0.0000**	**1.4322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2308					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2329**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.10 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	5.2300e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4312	1.4312	4.0000e-005	0.0000	1.4322
Total	**6.1000e-004**	**4.5000e-004**	**5.2300e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4312**	**1.4312**	**4.0000e-005**	**0.0000**	**1.4322**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2852	1.4000	5.2073	0.0212	1.8711	0.0157	1.8868	0.5015	0.0146	0.5161	0.0000	1,960.6446	1,960.6446	0.0909	0.0000	1,962.9177
Unmitigated	0.2852	1.4000	5.2073	0.0212	1.8711	0.0157	1.8868	0.5015	0.0146	0.5161	0.0000	1,960.6446	1,960.6446	0.0909	0.0000	1,962.9177

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
General Office Building	617.29	617.29	617.29	4,929,809	4,929,809
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	617.29	617.29	617.29	4,929,809	4,929,809

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
General Office Building	37.40	8.40	6.90	47.00	47.00	6.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
General Office Building	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Other Asphalt Surfaces	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Parking Lot	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Unrefrigerated Warehouse-No Rail	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	185.0945	185.0945	7.6400e-003	1.5800e-003	185.7567
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	185.0945	185.0945	7.6400e-003	1.5800e-003	185.7567
NaturalGas Mitigated	2.7400e-003	0.0249	0.0209	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.1357	27.1357	5.2000e-004	5.0000e-004	27.2969
NaturalGas Unmitigated	2.7400e-003	0.0249	0.0209	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.1357	27.1357	5.2000e-004	5.0000e-004	27.2969

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	124890	6.7000e-004	6.1200e-003	5.1400e-003	4.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	6.6646	6.6646	1.3000e-004	1.2000e-004	6.7042
General Office Building	382047	2.0600e-003	0.0187	0.0157	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	20.3875	20.3875	3.9000e-004	3.7000e-004	20.5086
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1566	1.0000e-005	8.0000e-005	6.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0836	0.0836	0.0000	0.0000	0.0841
Total		**2.7400e-003**	**0.0249**	**0.0209**	**1.5000e-004**		**1.9000e-003**	**1.9000e-003**		**1.9000e-003**	**1.9000e-003**	**0.0000**	**27.1357**	**27.1357**	**5.2000e-004**	**4.9000e-004**	**27.2969**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	124890	6.7000e-004	6.1200e-003	5.1400e-003	4.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	6.6646	6.6646	1.3000e-004	1.2000e-004	6.7042
General Office Building	382047	2.0600e-003	0.0187	0.0157	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	20.3875	20.3875	3.9000e-004	3.7000e-004	20.5086
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1566	1.0000e-005	8.0000e-005	6.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0836	0.0836	0.0000	0.0000	0.0841
Total		**2.7400e-003**	**0.0249**	**0.0209**	**1.5000e-004**		**1.9000e-003**	**1.9000e-003**		**1.9000e-003**	**1.9000e-003**	**0.0000**	**27.1357**	**27.1357**	**5.2000e-004**	**4.9000e-004**	**27.2969**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	76590	24.4032	1.0100e-003	2.1000e-004	24.4905
General Office Building	476733	151.8974	6.2700e-003	1.3000e-003	152.4408
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20580	6.5572	2.7000e-004	6.0000e-005	6.5807
Unrefrigerated Warehouse-No Rail	7020	2.2367	9.0000e-005	2.0000e-005	2.2447
Total		**185.0945**	**7.6400e-003**	**1.5900e-003**	**185.7567**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	76590	24.4032	1.0100e-003	2.1000e-004	24.4905
General Office Building	476733	151.8974	6.2700e-003	1.3000e-003	152.4408
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20580	6.5572	2.7000e-004	6.0000e-005	6.5807
Unrefrigerated Warehouse-No Rail	7020	2.2367	9.0000e-005	2.0000e-005	2.2447
Total		**185.0945**	**7.6400e-003**	**1.5900e-003**	**185.7567**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1969	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.4100e-003
Unmitigated	0.1969	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.4100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0231					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1735					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.4100e-003
Total	**0.1969**	**3.0000e-005**	**3.5700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.9500e-003**	**6.9500e-003**	**2.0000e-005**	**0.0000**	**7.4100e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0231					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1735					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3000e-004	3.0000e-005	3.5700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.4100e-003
Total	**0.1969**	**3.0000e-005**	**3.5700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.9500e-003**	**6.9500e-003**	**2.0000e-005**	**0.0000**	**7.4100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	49.4496	0.2492	6.2400e-003	57.5394
Unmitigated	49.4496	0.2492	6.2400e-003	57.5394

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.64916 / 0.397872	4.3076	0.0213	5.3000e-004	4.9999
General Office Building	6.52283 / 3.99786	43.2831	0.2143	5.3700e-003	50.2398
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.41625 / 0	1.8590	0.0136	3.4000e-004	2.2997
Total		**49.4496**	**0.2492**	**6.2400e-003**	**57.5394**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.64916 / 0.397872	4.3076	0.0213	5.3000e-004	4.9999
General Office Building	6.52283 / 3.99786	43.2831	0.2143	5.3700e-003	50.2398
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.41625 / 0	1.8590	0.0136	3.4000e-004	2.2997
Total		**49.4496**	**0.2492**	**6.2400e-003**	**57.5394**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	12.6220	0.7459	0.0000	31.2704
Unmitigated	12.6220	0.7459	0.0000	31.2704

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	26.36	5.3508	0.3162	0.0000	13.2565
General Office Building	34.13	6.9281	0.4094	0.0000	17.1640
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.69	0.3431	0.0203	0.0000	0.8499
Total		**12.6220**	**0.7459**	**0.0000**	**31.2704**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	26.36	5.3508	0.3162	0.0000	13.2565
General Office Building	34.13	6.9281	0.4094	0.0000	17.1640
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.69	0.3431	0.0203	0.0000	0.8499
Total		**12.6220**	**0.7459**	**0.0000**	**31.2704**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	100	670	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	3.2300e-003	0.0140	0.1186	2.6000e-004		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	25.5134	25.5134	3.5800e-003	0.0000	25.6028
Total	**3.2300e-003**	**0.0140**	**0.1186**	**2.6000e-004**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**25.5134**	**25.5134**	**3.5800e-003**	**0.0000**	**25.6028**

11.0 Vegetation

CHP Baldwin Park

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	36.70	1000sqft	1.99	36,700.00	0
Unrefrigerated Warehouse-No Rail	1.80	1000sqft	0.04	1,800.00	0
Other Asphalt Surfaces	65.00	1000sqft	1.49	65,000.00	0
Other Asphalt Surfaces	22.70	1000sqft	0.52	22,700.00	0
Parking Lot	147.00	Space	1.32	58,800.00	0
Automobile Care Center	6.90	1000sqft	0.16	6,900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Adjusted Other Asphalt Surfaces to reach total impervious surface area. Lot Acreage for General Office Building adjusted to reach lot acreage of 5 ac. Then added sidewalk and street improvements

Construction Phase - Trenching added to reflect PD. Milling and Utility Boring added based on Pers Comm.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment from Pers Comm

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment Assumptions from RoadMod

Off-road Equipment - Assumed 1 Borer

Trips and VMT - 12 Hauling Trips added for Milling based on Pers Comm

Demolition - Estimate for removal of trees and concrete

Grading - Values from Pers Comm, Updated 11/19/19 to include additional material import

Vehicle Trips - Values updated based on Trip Table Air Study spreadsheet

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - Updated to reflect Tier 4 Final values

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	15.00
tblGrading	MaterialImported	0.00	7,901.00
tblGrading	MaterialImported	0.00	7,901.00
tblLandUse	LotAcreage	0.84	1.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Utility Boring
tblOffRoadEquipment	PhaseName		Milling and Striping
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblStationaryGeneratorsPumpsEF	CO_EF	2.60	2.20

tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	0.26
tblStationaryGeneratorsPumpsEF	PM10_EF	0.15	8.0000e-003
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.15	8.0000e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	1.3200e-004
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblVehicleTrips	CC_TTP	48.00	47.00
tblVehicleTrips	CNW_TTP	19.00	6.00
tblVehicleTrips	CW_TL	16.60	37.40
tblVehicleTrips	CW_TTP	33.00	47.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	2.46	16.82
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	1.05	16.82
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	11.03	16.82
tblVehicleTrips	WD_TR	1.68	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.7891	67.0526	34.4608	0.1172	20.0844	2.1274	22.2118	10.4711	1.9602	12.4314	0.0000	12,253.5246	12,253.5246	1.7656	0.0000	12,297.6644
2022	23.3448	18.6802	19.9320	0.0432	1.0480	0.8210	1.8690	0.2824	0.7724	1.0549	0.0000	4,234.0612	4,234.0612	0.7186	0.0000	4,251.1479
Maximum	**23.3448**	**67.0526**	**34.4608**	**0.1172**	**20.0844**	**2.1274**	**22.2118**	**10.4711**	**1.9602**	**12.4314**	**0.0000**	**12,253.5246**	**12,253.5246**	**1.7656**	**0.0000**	**12,297.6644**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.7891	67.0526	34.4608	0.1172	20.0844	2.1274	22.2118	10.4711	1.9602	12.4314	0.0000	12,253.5246	12,253.5246	1.7656	0.0000	12,297.6644
2022	23.3448	18.6802	19.9320	0.0432	1.0480	0.8210	1.8690	0.2824	0.7724	1.0549	0.0000	4,234.0612	4,234.0612	0.7186	0.0000	4,251.1479
Maximum	**23.3448**	**67.0526**	**34.4608**	**0.1172**	**20.0844**	**2.1274**	**22.2118**	**10.4711**	**1.9602**	**12.4314**	**0.0000**	**12,253.5246**	**12,253.5246**	**1.7656**	**0.0000**	**12,297.6644**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Energy	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750
Mobile	1.6314	7.2459	30.3016	0.1209	10.4829	0.0864	10.5692	2.8053	0.0804	2.8856		12,297.7656	12,297.7656	0.5586		12,311.7298
Stationary	0.0646	0.2804	2.3722	5.2800e-003		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003		562.4745	562.4745	0.0789		564.4459
Total	**2.7909**	**7.6631**	**32.8172**	**0.1270**	**10.4829**	**0.1055**	**10.5884**	**2.8053**	**0.0995**	**2.9047**		**13,024.2024**	**13,024.2024**	**0.6407**	**3.0000e-003**	**13,041.1161**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Energy	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750
Mobile	1.6314	7.2459	30.3016	0.1209	10.4829	0.0864	10.5692	2.8053	0.0804	2.8856		12,297.7656	12,297.7656	0.5586		12,311.7298
Stationary	0.0646	0.2804	2.3722	5.2800e-003		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003		562.4745	562.4745	0.0789		564.4459
Total	**2.7909**	**7.6631**	**32.8172**	**0.1270**	**10.4829**	**0.1055**	**10.5884**	**2.8053**	**0.0995**	**2.9047**		**13,024.2024**	**13,024.2024**	**0.6407**	**3.0000e-003**	**13,041.1161**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/11/2021	5	20	
4	Trenching for Utilities	Trenching	3/12/2021	4/19/2021	5	27	
5	Building Construction	Building Construction	4/20/2021	3/7/2022	5	230	
6	Paving	Paving	3/8/2022	4/4/2022	5	20	
7	Milling and Striping	Paving	4/5/2022	4/25/2022	5	15	
8	Utility Boring	Trenching	4/26/2022	4/29/2022	5	4	
9	Architectural Coating	Architectural Coating	5/2/2022	5/27/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 3.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 68,100; Non-Residential Outdoor: 22,700; Striped Parking Area: 8,790 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Trenching for Utilities	Air Compressors	1	8.00	78	0.48
Trenching for Utilities	Generator Sets	1	8.00	84	0.74
Trenching for Utilities	Graders	1	8.00	187	0.41
Trenching for Utilities	Plate Compactors	1	8.00	8	0.43
Trenching for Utilities	Pumps	1	8.00	84	0.74
Trenching for Utilities	Rough Terrain Forklifts	1	8.00	100	0.40
Trenching for Utilities	Scrapers	2	8.00	367	0.48
Trenching for Utilities	Signal Boards	2	8.00	6	0.82
Trenching for Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching for Utilities	Trenchers	0	8.00	78	0.50
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Utility Boring	Bore/Drill Rigs	1	8.00	221	0.50
Milling and Striping	Dumpers/Tenders	2	5.00	16	0.38
Milling and Striping	Pavers	1	2.00	130	0.42
Milling and Striping	Paving Equipment	3	3.00	132	0.36
Milling and Striping	Rollers	1	2.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	16.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	988.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	988.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching for Utilities	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	76.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Milling and Striping	7	18.00	0.00	12.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Boring	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1765	0.0000	0.1765	0.0267	0.0000	0.0267			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.1765**	**1.5513**	**1.7279**	**0.0267**	**1.4411**	**1.4678**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.6700e-003	0.2146	0.0503	6.2000e-004	0.0140	6.6000e-004	0.0147	3.8300e-003	6.3000e-004	4.4600e-003		67.7157	67.7157	4.6000e-003		67.8306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0710**	**0.2588**	**0.6545**	**2.3300e-003**	**0.1817**	**2.0100e-003**	**0.1837**	**0.0483**	**1.8800e-003**	**0.0502**		**238.5312**	**238.5312**	**9.6300e-003**		**238.7719**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1765	0.0000	0.1765	0.0267	0.0000	0.0267			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.1765**	**1.5513**	**1.7279**	**0.0267**	**1.4411**	**1.4678**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.6700e-003	0.2146	0.0503	6.2000e-004	0.0140	6.6000e-004	0.0147	3.8300e-003	6.3000e-004	4.4600e-003		67.7157	67.7157	4.6000e-003		67.8306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0710**	**0.2588**	**0.6545**	**2.3300e-003**	**0.1817**	**2.0100e-003**	**0.1837**	**0.0483**	**1.8800e-003**	**0.0502**		**238.5312**	**238.5312**	**9.6300e-003**		**238.7719**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1556	0.0000	18.1556	9.9442	0.0000	9.9442			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.1556**	**2.0445**	**20.2001**	**9.9442**	**1.8809**	**11.8251**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8238	26.5025	6.2141	0.0771	1.7276	0.0814	1.8089	0.4736	0.0778	0.5514		8,362.8892	8,362.8892	0.5675		8,377.0775
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.9009**	**26.5555**	**6.9391**	**0.0791**	**1.9288**	**0.0830**	**2.0117**	**0.5269**	**0.0793**	**0.6062**		**8,567.8677**	**8,567.8677**	**0.5736**		**8,582.2071**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1556	0.0000	18.1556	9.9442	0.0000	9.9442			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.1556**	**2.0445**	**20.2001**	**9.9442**	**1.8809**	**11.8251**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8238	26.5025	6.2141	0.0771	1.7276	0.0814	1.8089	0.4736	0.0778	0.5514		8,362.8892	8,362.8892	0.5675		8,377.0775
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.9009**	**26.5555**	**6.9391**	**0.0791**	**1.9288**	**0.0830**	**2.0117**	**0.5269**	**0.0793**	**0.6062**		**8,567.8677**	**8,567.8677**	**0.5736**		**8,582.2071**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5970	0.0000	6.5970	3.3743	0.0000	3.3743			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5970**	**1.1599**	**7.7569**	**3.3743**	**1.0671**	**4.4414**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4119	13.2512	3.1070	0.0385	0.8638	0.0407	0.9045	0.2368	0.0389	0.2757		4,181.4446	4,181.4446	0.2838		4,188.5388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.4762**	**13.2954**	**3.7112**	**0.0403**	**1.0314**	**0.0420**	**1.0735**	**0.2813**	**0.0402**	**0.3214**		**4,352.2601**	**4,352.2601**	**0.2888**		**4,359.4801**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5970	0.0000	6.5970	3.3743	0.0000	3.3743			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5970**	**1.1599**	**7.7569**	**3.3743**	**1.0671**	**4.4414**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4119	13.2512	3.1070	0.0385	0.8638	0.0407	0.9045	0.2368	0.0389	0.2757		4,181.4446	4,181.4446	0.2838		4,188.5388
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.4762**	**13.2954**	**3.7112**	**0.0403**	**1.0314**	**0.0420**	**1.0735**	**0.2813**	**0.0402**	**0.3214**		**4,352.2601**	**4,352.2601**	**0.2888**		**4,359.4801**

3.5 Trenching for Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9941	42.1161	33.2525	0.0656		1.8150	1.8150		1.7105	1.7105		6,267.5174	6,267.5174	1.5650		6,306.6416
Total	**3.9941**	**42.1161**	**33.2525**	**0.0656**		**1.8150**	**1.8150**		**1.7105**	**1.7105**		**6,267.5174**	**6,267.5174**	**1.5650**		**6,306.6416**

3.5 Trenching for Utilities - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1286	0.0884	1.2083	3.4300e-003	0.3353	2.7100e-003	0.3380	0.0889	2.5000e-003	0.0914		341.6310	341.6310	0.0101		341.8826
Total	**0.1286**	**0.0884**	**1.2083**	**3.4300e-003**	**0.3353**	**2.7100e-003**	**0.3380**	**0.0889**	**2.5000e-003**	**0.0914**		**341.6310**	**341.6310**	**0.0101**		**341.8826**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9941	42.1161	33.2525	0.0656		1.8150	1.8150		1.7105	1.7105	0.0000	6,267.5174	6,267.5174	1.5650		6,306.6416
Total	**3.9941**	**42.1161**	**33.2525**	**0.0656**		**1.8150**	**1.8150**		**1.7105**	**1.7105**	**0.0000**	**6,267.5174**	**6,267.5174**	**1.5650**		**6,306.6416**

3.5 Trenching for Utilities - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1286	0.0884	1.2083	3.4300e-003	0.3353	2.7100e-003	0.3380	0.0889	2.5000e-003	0.0914		341.6310	341.6310	0.0101		341.8826
Total	**0.1286**	**0.0884**	**1.2083**	**3.4300e-003**	**0.3353**	**2.7100e-003**	**0.3380**	**0.0889**	**2.5000e-003**	**0.0914**		**341.6310**	**341.6310**	**0.0101**		**341.8826**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0942	3.0098	0.7868	7.9700e-003	0.1985	6.1500e-003	0.2046	0.0571	5.8900e-003	0.0630		852.1300	852.1300	0.0502		853.3850
Worker	0.3258	0.2239	3.0611	8.6900e-003	0.8495	6.8600e-003	0.8564	0.2253	6.3200e-003	0.2316		865.4651	865.4651	0.0255		866.1026
Total	**0.4200**	**3.2337**	**3.8479**	**0.0167**	**1.0480**	**0.0130**	**1.0610**	**0.2824**	**0.0122**	**0.2946**		**1,717.5950**	**1,717.5950**	**0.0757**		**1,719.4876**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0942	3.0098	0.7868	7.9700e-003	0.1985	6.1500e-003	0.2046	0.0571	5.8900e-003	0.0630		852.1300	852.1300	0.0502		853.3850
Worker	0.3258	0.2239	3.0611	8.6900e-003	0.8495	6.8600e-003	0.8564	0.2253	6.3200e-003	0.2316		865.4651	865.4651	0.0255		866.1026
Total	**0.4200**	**3.2337**	**3.8479**	**0.0167**	**1.0480**	**0.0130**	**1.0610**	**0.2824**	**0.0122**	**0.2946**		**1,717.5950**	**1,717.5950**	**0.0757**		**1,719.4876**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0884	2.8622	0.7445	7.9000e-003	0.1985	5.3800e-003	0.2039	0.0571	5.1500e-003	0.0623		844.7063	844.7063	0.0485		845.9181
Worker	0.3052	0.2023	2.8242	8.3800e-003	0.8495	6.6500e-003	0.8562	0.2253	6.1200e-003	0.2314		835.0214	835.0214	0.0231		835.5975
Total	**0.3936**	**3.0645**	**3.5686**	**0.0163**	**1.0480**	**0.0120**	**1.0600**	**0.2824**	**0.0113**	**0.2937**		**1,679.7276**	**1,679.7276**	**0.0715**		**1,681.5156**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0884	2.8622	0.7445	7.9000e-003	0.1985	5.3800e-003	0.2039	0.0571	5.1500e-003	0.0623		844.7063	844.7063	0.0485		845.9181
Worker	0.3052	0.2023	2.8242	8.3800e-003	0.8495	6.6500e-003	0.8562	0.2253	6.1200e-003	0.2314		835.0214	835.0214	0.0231		835.5975
Total	**0.3936**	**3.0645**	**3.5686**	**0.0163**	**1.0480**	**0.0120**	**1.0600**	**0.2824**	**0.0113**	**0.2937**		**1,679.7276**	**1,679.7276**	**0.0715**		**1,681.5156**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.4362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5391**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.7 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.4362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5391**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.7 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.8 Milling and Striping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3856	3.4917	4.3638	7.3500e-003		0.1669	0.1669		0.1553	0.1553		697.2928	697.2928	0.2091		702.5192
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9673**	**3.4917**	**4.3638**	**7.3500e-003**		**0.1669**	**0.1669**		**0.1553**	**0.1553**		**697.2928**	**697.2928**	**0.2091**		**702.5192**

3.8 Milling and Striping - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.3500e-003	0.1994	0.0498	6.2000e-004	0.0140	5.7000e-004	0.0146	3.8300e-003	5.5000e-004	4.3800e-003		66.9148	66.9148	4.5300e-003		67.0280
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0723	0.0479	0.6689	1.9800e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4500e-003	0.0548		197.7682	197.7682	5.4600e-003		197.9047
Total	**0.0786**	**0.2473**	**0.7187**	**2.6000e-003**	**0.2152**	**2.1400e-003**	**0.2173**	**0.0572**	**2.0000e-003**	**0.0592**		**264.6830**	**264.6830**	**9.9900e-003**		**264.9326**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3856	3.4917	4.3638	7.3500e-003		0.1669	0.1669		0.1553	0.1553	0.0000	697.2928	697.2928	0.2091		702.5192
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9673**	**3.4917**	**4.3638**	**7.3500e-003**		**0.1669**	**0.1669**		**0.1553**	**0.1553**	**0.0000**	**697.2928**	**697.2928**	**0.2091**		**702.5192**

3.8 Milling and Striping - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.3500e-003	0.1994	0.0498	6.2000e-004	0.0140	5.7000e-004	0.0146	3.8300e-003	5.5000e-004	4.3800e-003		66.9148	66.9148	4.5300e-003		67.0280
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0723	0.0479	0.6689	1.9800e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4500e-003	0.0548		197.7682	197.7682	5.4600e-003		197.9047
Total	**0.0786**	**0.2473**	**0.7187**	**2.6000e-003**	**0.2152**	**2.1400e-003**	**0.2173**	**0.0572**	**2.0000e-003**	**0.0592**		**264.6830**	**264.6830**	**9.9900e-003**		**264.9326**

3.9 Utility Boring - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2241	2.2664	2.0411	9.4400e-003		0.0728	0.0728		0.0669	0.0669		913.5608	913.5608	0.2955		920.9474
Total	**0.2241**	**2.2664**	**2.0411**	**9.4400e-003**		**0.0728**	**0.0728**		**0.0669**	**0.0669**		**913.5608**	**913.5608**	**0.2955**		**920.9474**

3.9 Utility Boring - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0121	7.9800e-003	0.1115	3.3000e-004	0.0335	2.6000e-004	0.0338	8.8900e-003	2.4000e-004	9.1300e-003		32.9614	32.9614	9.1000e-004		32.9841
Total	**0.0121**	**7.9800e-003**	**0.1115**	**3.3000e-004**	**0.0335**	**2.6000e-004**	**0.0338**	**8.8900e-003**	**2.4000e-004**	**9.1300e-003**		**32.9614**	**32.9614**	**9.1000e-004**		**32.9841**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2241	2.2664	2.0411	9.4400e-003		0.0728	0.0728		0.0669	0.0669	0.0000	913.5608	913.5608	0.2955		920.9474
Total	**0.2241**	**2.2664**	**2.0411**	**9.4400e-003**		**0.0728**	**0.0728**		**0.0669**	**0.0669**	**0.0000**	**913.5608**	**913.5608**	**0.2955**		**920.9474**

3.9 Utility Boring - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0121	7.9800e-003	0.1115	3.3000e-004	0.0335	2.6000e-004	0.0338	8.8900e-003	2.4000e-004	9.1300e-003		32.9614	32.9614	9.1000e-004		32.9841
Total	**0.0121**	**7.9800e-003**	**0.1115**	**3.3000e-004**	**0.0335**	**2.6000e-004**	**0.0338**	**8.8900e-003**	**2.4000e-004**	**9.1300e-003**		**32.9614**	**32.9614**	**9.1000e-004**		**32.9841**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	23.0800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**23.2845**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.10 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	23.0800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**23.2845**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.10 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	1.6314	7.2459	30.3016	0.1209	10.4829	0.0864	10.5692	2.8053	0.0804	2.8856		12,297.7656	12,297.7656	0.5586		12,311.7298
Unmitigated	1.6314	7.2459	30.3016	0.1209	10.4829	0.0864	10.5692	2.8053	0.0804	2.8856		12,297.7656	12,297.7656	0.5586		12,311.7298

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
General Office Building	617.29	617.29	617.29	4,929,809	4,929,809
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	617.29	617.29	617.29	4,929,809	4,929,809

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
General Office Building	37.40	8.40	6.90	47.00	47.00	6.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
General Office Building	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Other Asphalt Surfaces	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Parking Lot	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Unrefrigerated Warehouse-No Rail	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750
NaturalGas Unmitigated	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	342.164	3.6900e-003	0.0336	0.0282	2.0000e-004		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003		40.2546	40.2546	7.7000e-004	7.4000e-004	40.4939
General Office Building	1046.7	0.0113	0.1026	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003		123.1417	123.1417	2.3600e-003	2.2600e-003	123.8734
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	4.29041	5.0000e-005	4.2000e-004	3.5000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5048	0.5048	1.0000e-005	1.0000e-005	0.5078
Total		**0.0150**	**0.1366**	**0.1147**	**8.2000e-004**		**0.0104**	**0.0104**		**0.0104**	**0.0104**		**163.9010**	**163.9010**	**3.1400e-003**	**3.0100e-003**	**164.8750**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0.342164	3.6900e-003	0.0336	0.0282	2.0000e-004		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003		40.2546	40.2546	7.7000e-004	7.4000e-004	40.4939
General Office Building	1.0467	0.0113	0.1026	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003		123.1417	123.1417	2.3600e-003	2.2600e-003	123.8734
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.00429041	5.0000e-005	4.2000e-004	3.5000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5048	0.5048	1.0000e-005	1.0000e-005	0.5078
Total		**0.0150**	**0.1366**	**0.1147**	**8.2000e-004**		**0.0104**	**0.0104**		**0.0104**	**0.0104**		**163.9010**	**163.9010**	**3.1400e-003**	**3.0100e-003**	**164.8750**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Unmitigated	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1265					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6500e-003	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Total	**1.0799**	**2.6000e-004**	**0.0286**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0613**	**0.0613**	**1.6000e-004**		**0.0653**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1265					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6500e-003	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Total	**1.0799**	**2.6000e-004**	**0.0286**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0613**	**0.0613**	**1.6000e-004**		**0.0653**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	100	670	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (600 - 750 HP)	0.0646	0.2804	2.3722	5.2800e-003		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003		562.4745	562.4745	0.0789		564.4459
Total	**0.0646**	**0.2804**	**2.3722**	**5.2800e-003**		**8.6300e-003**	**8.6300e-003**		**8.6300e-003**	**8.6300e-003**		**562.4745**	**562.4745**	**0.0789**		**564.4459**

11.0 Vegetation

CHP Baldwin Park

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	36.70	1000sqft	1.99	36,700.00	0
Unrefrigerated Warehouse-No Rail	1.80	1000sqft	0.04	1,800.00	0
Other Asphalt Surfaces	65.00	1000sqft	1.49	65,000.00	0
Other Asphalt Surfaces	22.70	1000sqft	0.52	22,700.00	0
Parking Lot	147.00	Space	1.32	58,800.00	0
Automobile Care Center	6.90	1000sqft	0.16	6,900.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Adjusted Other Asphalt Surfaces to reach total impervious surface area. Lot Acreage for General Office Building adjusted to reach lot acreage of 5 ac. Then added sidewalk and street improvements

Construction Phase - Trenching added to reflect PD. Milling and Utility Boring added based on Pers Comm.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment from Pers Comm

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment Assumptions from RoadMod

Off-road Equipment - Assumed 1 Borer

Trips and VMT - 12 Hauling Trips added for Milling based on Pers Comm

Demolition - Estimate for removal of trees and concrete

Grading - Values from Pers Comm, Updated 11/19/19 to include additional material import

Vehicle Trips - Values updated based on Trip Table Air Study spreadsheet

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - Updated to reflect Tier 4 Final values

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	15.00
tblGrading	MaterialImported	0.00	7,901.00
tblGrading	MaterialImported	0.00	7,901.00
tblLandUse	LotAcreage	0.84	1.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Utility Boring
tblOffRoadEquipment	PhaseName		Milling and Striping
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	PhaseName		Trenching for Utilities
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblStationaryGeneratorsPumpsEF	CO_EF	2.60	2.20

tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	0.26
tblStationaryGeneratorsPumpsEF	PM10_EF	0.15	8.0000e-003
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.15	8.0000e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	1.3200e-004
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblVehicleTrips	CC_TTP	48.00	47.00
tblVehicleTrips	CNW_TTP	19.00	6.00
tblVehicleTrips	CW_TL	16.60	37.40
tblVehicleTrips	CW_TTP	33.00	47.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	2.46	16.82
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	1.05	16.82
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	11.03	16.82
tblVehicleTrips	WD_TR	1.68	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.8176	67.3829	34.3572	0.1157	20.0844	2.1287	22.2130	10.4711	1.9614	12.4325	0.0000	12,096.6791	12,096.6791	1.7852	0.0000	12,141.3101
2022	23.3517	18.6940	19.7650	0.0425	1.0480	0.8212	1.8692	0.2824	0.7726	1.0550	0.0000	4,162.0142	4,162.0142	0.7183	0.0000	4,179.1447
Maximum	**23.3517**	**67.3829**	**34.3572**	**0.1157**	**20.0844**	**2.1287**	**22.2130**	**10.4711**	**1.9614**	**12.4325**	**0.0000**	**12,096.6791**	**12,096.6791**	**1.7852**	**0.0000**	**12,141.3101**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.8176	67.3829	34.3572	0.1157	20.0844	2.1287	22.2130	10.4711	1.9614	12.4325	0.0000	12,096.6791	12,096.6791	1.7852	0.0000	12,141.3101
2022	23.3517	18.6940	19.7650	0.0425	1.0480	0.8212	1.8692	0.2824	0.7726	1.0550	0.0000	4,162.0142	4,162.0142	0.7183	0.0000	4,179.1447
Maximum	**23.3517**	**67.3829**	**34.3572**	**0.1157**	**20.0844**	**2.1287**	**22.2130**	**10.4711**	**1.9614**	**12.4325**	**0.0000**	**12,096.6791**	**12,096.6791**	**1.7852**	**0.0000**	**12,141.3101**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Energy	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750
Mobile	1.5843	7.5475	28.0051	0.1152	10.4829	0.0865	10.5694	2.8053	0.0805	2.8858		11,727.5655	11,727.5655	0.5499		11,741.3128
Stationary	0.0646	0.2804	2.3722	5.2800e-003		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003		562.4745	562.4745	0.0789		564.4459
Total	**2.7438**	**7.9646**	**30.5206**	**0.1213**	**10.4829**	**0.1056**	**10.5885**	**2.8053**	**0.0996**	**2.9049**		**12,454.0023**	**12,454.0023**	**0.6321**	**3.0000e-003**	**12,470.6991**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Energy	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750
Mobile	1.5843	7.5475	28.0051	0.1152	10.4829	0.0865	10.5694	2.8053	0.0805	2.8858		11,727.5655	11,727.5655	0.5499		11,741.3128
Stationary	0.0646	0.2804	2.3722	5.2800e-003		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003		562.4745	562.4745	0.0789		564.4459
Total	**2.7438**	**7.9646**	**30.5206**	**0.1213**	**10.4829**	**0.1056**	**10.5885**	**2.8053**	**0.0996**	**2.9049**		**12,454.0023**	**12,454.0023**	**0.6321**	**3.0000e-003**	**12,470.6991**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/11/2021	5	20	
4	Trenching for Utilities	Trenching	3/12/2021	4/19/2021	5	27	
5	Building Construction	Building Construction	4/20/2021	3/7/2022	5	230	
6	Paving	Paving	3/8/2022	4/4/2022	5	20	
7	Milling and Striping	Paving	4/5/2022	4/25/2022	5	15	
8	Utility Boring	Trenching	4/26/2022	4/29/2022	5	4	
9	Architectural Coating	Architectural Coating	5/2/2022	5/27/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 3.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 68,100; Non-Residential Outdoor: 22,700; Striped Parking Area: 8,790 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Trenching for Utilities	Air Compressors	1	8.00	78	0.48
Trenching for Utilities	Generator Sets	1	8.00	84	0.74
Trenching for Utilities	Graders	1	8.00	187	0.41
Trenching for Utilities	Plate Compactors	1	8.00	8	0.43
Trenching for Utilities	Pumps	1	8.00	84	0.74
Trenching for Utilities	Rough Terrain Forklifts	1	8.00	100	0.40
Trenching for Utilities	Scrapers	2	8.00	367	0.48
Trenching for Utilities	Signal Boards	2	8.00	6	0.82
Trenching for Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching for Utilities	Trenchers	0	8.00	78	0.50
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Utility Boring	Bore/Drill Rigs	1	8.00	221	0.50
Milling and Striping	Dumpers/Tenders	2	5.00	16	0.38
Milling and Striping	Pavers	1	2.00	130	0.42
Milling and Striping	Paving Equipment	3	3.00	132	0.36
Milling and Striping	Rollers	1	2.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	16.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	988.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	988.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching for Utilities	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	76.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Milling and Striping	7	18.00	0.00	12.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Boring	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1765	0.0000	0.1765	0.0267	0.0000	0.0267			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.1765**	**1.5513**	**1.7279**	**0.0267**	**1.4411**	**1.4678**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.8300e-003	0.2172	0.0534	6.1000e-004	0.0140	6.7000e-004	0.0147	3.8300e-003	6.4000e-004	4.4700e-003		66.5427	66.5427	4.7600e-003		66.6616
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0784**	**0.2661**	**0.6057**	**2.2200e-003**	**0.1817**	**2.0200e-003**	**0.1837**	**0.0483**	**1.8900e-003**	**0.0502**		**227.3803**	**227.3803**	**9.4900e-003**		**227.6176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1765	0.0000	0.1765	0.0267	0.0000	0.0267			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.1765**	**1.5513**	**1.7279**	**0.0267**	**1.4411**	**1.4678**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.8300e-003	0.2172	0.0534	6.1000e-004	0.0140	6.7000e-004	0.0147	3.8300e-003	6.4000e-004	4.4700e-003		66.5427	66.5427	4.7600e-003		66.6616
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0784**	**0.2661**	**0.6057**	**2.2200e-003**	**0.1817**	**2.0200e-003**	**0.1837**	**0.0483**	**1.8900e-003**	**0.0502**		**227.3803**	**227.3803**	**9.4900e-003**		**227.6176**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1556	0.0000	18.1556	9.9442	0.0000	9.9442			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.1556**	**2.0445**	**20.2001**	**9.9442**	**1.8809**	**11.8251**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8436	26.8271	6.5893	0.0757	1.7276	0.0826	1.8101	0.4736	0.0790	0.5526		8,218.0170	8,218.0170	0.5875		8,232.7056
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.9294**	**26.8858**	**7.2522**	**0.0777**	**1.9288**	**0.0842**	**2.0130**	**0.5269**	**0.0805**	**0.6074**		**8,411.0222**	**8,411.0222**	**0.5932**		**8,425.8528**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1556	0.0000	18.1556	9.9442	0.0000	9.9442			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.1556**	**2.0445**	**20.2001**	**9.9442**	**1.8809**	**11.8251**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8436	26.8271	6.5893	0.0757	1.7276	0.0826	1.8101	0.4736	0.0790	0.5526		8,218.0170	8,218.0170	0.5875		8,232.7056
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.9294**	**26.8858**	**7.2522**	**0.0777**	**1.9288**	**0.0842**	**2.0130**	**0.5269**	**0.0805**	**0.6074**		**8,411.0222**	**8,411.0222**	**0.5932**		**8,425.8528**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5970	0.0000	6.5970	3.3743	0.0000	3.3743			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5970**	**1.1599**	**7.7569**	**3.3743**	**1.0671**	**4.4414**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4218	13.4136	3.2947	0.0379	0.8638	0.0413	0.9051	0.2368	0.0395	0.2763		4,109.0085	4,109.0085	0.2938		4,116.3528
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.4933**	**13.4625**	**3.8470**	**0.0395**	**1.0314**	**0.0426**	**1.0741**	**0.2813**	**0.0408**	**0.3220**		**4,269.8462**	**4,269.8462**	**0.2985**		**4,277.3088**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5970	0.0000	6.5970	3.3743	0.0000	3.3743			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5970**	**1.1599**	**7.7569**	**3.3743**	**1.0671**	**4.4414**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4218	13.4136	3.2947	0.0379	0.8638	0.0413	0.9051	0.2368	0.0395	0.2763		4,109.0085	4,109.0085	0.2938		4,116.3528
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.4933**	**13.4625**	**3.8470**	**0.0395**	**1.0314**	**0.0426**	**1.0741**	**0.2813**	**0.0408**	**0.3220**		**4,269.8462**	**4,269.8462**	**0.2985**		**4,277.3088**

3.5 Trenching for Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9941	42.1161	33.2525	0.0656		1.8150	1.8150		1.7105	1.7105		6,267.5174	6,267.5174	1.5650		6,306.6416
Total	**3.9941**	**42.1161**	**33.2525**	**0.0656**		**1.8150**	**1.8150**		**1.7105**	**1.7105**		**6,267.5174**	**6,267.5174**	**1.5650**		**6,306.6416**

3.5 Trenching for Utilities - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1431	0.0978	1.1048	3.2300e-003	0.3353	2.7100e-003	0.3380	0.0889	2.5000e-003	0.0914		321.6753	321.6753	9.4700e-003		321.9120
Total	**0.1431**	**0.0978**	**1.1048**	**3.2300e-003**	**0.3353**	**2.7100e-003**	**0.3380**	**0.0889**	**2.5000e-003**	**0.0914**		**321.6753**	**321.6753**	**9.4700e-003**		**321.9120**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9941	42.1161	33.2525	0.0656		1.8150	1.8150		1.7105	1.7105	0.0000	6,267.5174	6,267.5174	1.5650		6,306.6416
Total	**3.9941**	**42.1161**	**33.2525**	**0.0656**		**1.8150**	**1.8150**		**1.7105**	**1.7105**	**0.0000**	**6,267.5174**	**6,267.5174**	**1.5650**		**6,306.6416**

3.5 Trenching for Utilities - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1431	0.0978	1.1048	3.2300e-003	0.3353	2.7100e-003	0.3380	0.0889	2.5000e-003	0.0914		321.6753	321.6753	9.4700e-003		321.9120
Total	**0.1431**	**0.0978**	**1.1048**	**3.2300e-003**	**0.3353**	**2.7100e-003**	**0.3380**	**0.0889**	**2.5000e-003**	**0.0914**		**321.6753**	**321.6753**	**9.4700e-003**		**321.9120**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0989	3.0036	0.8704	7.7600e-003	0.1985	6.3500e-003	0.2048	0.0571	6.0700e-003	0.0632		828.7711	828.7711	0.0535		830.1087
Worker	0.3624	0.2479	2.7987	8.1800e-003	0.8495	6.8600e-003	0.8564	0.2253	6.3200e-003	0.2316		814.9108	814.9108	0.0240		815.5103
Total	**0.4613**	**3.2514**	**3.6691**	**0.0159**	**1.0480**	**0.0132**	**1.0612**	**0.2824**	**0.0124**	**0.2948**		**1,643.6820**	**1,643.6820**	**0.0775**		**1,645.6190**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0989	3.0036	0.8704	7.7600e-003	0.1985	6.3500e-003	0.2048	0.0571	6.0700e-003	0.0632		828.7711	828.7711	0.0535		830.1087
Worker	0.3624	0.2479	2.7987	8.1800e-003	0.8495	6.8600e-003	0.8564	0.2253	6.3200e-003	0.2316		814.9108	814.9108	0.0240		815.5103
Total	**0.4613**	**3.2514**	**3.6691**	**0.0159**	**1.0480**	**0.0132**	**1.0612**	**0.2824**	**0.0124**	**0.2948**		**1,643.6820**	**1,643.6820**	**0.0775**		**1,645.6190**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0929	2.8545	0.8239	7.6800e-003	0.1985	5.5600e-003	0.2040	0.0571	5.3100e-003	0.0625		821.4079	821.4079	0.0516		822.6984
Worker	0.3404	0.2239	2.5777	7.8900e-003	0.8495	6.6500e-003	0.8562	0.2253	6.1200e-003	0.2314		786.2728	786.2728	0.0217		786.8140
Total	**0.4332**	**3.0783**	**3.4016**	**0.0156**	**1.0480**	**0.0122**	**1.0602**	**0.2824**	**0.0114**	**0.2939**		**1,607.6807**	**1,607.6807**	**0.0733**		**1,609.5125**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0929	2.8545	0.8239	7.6800e-003	0.1985	5.5600e-003	0.2040	0.0571	5.3100e-003	0.0625		821.4079	821.4079	0.0516		822.6984
Worker	0.3404	0.2239	2.5777	7.8900e-003	0.8495	6.6500e-003	0.8562	0.2253	6.1200e-003	0.2314		786.2728	786.2728	0.0217		786.8140
Total	**0.4332**	**3.0783**	**3.4016**	**0.0156**	**1.0480**	**0.0122**	**1.0602**	**0.2824**	**0.0114**	**0.2939**		**1,607.680 7**	**1,607.680 7**	**0.0733**		**1,609.512 5**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.4362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5391**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

3.7 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.4362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5391**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.7 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.8 Milling and Striping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3856	3.4917	4.3638	7.3500e-003		0.1669	0.1669		0.1553	0.1553		697.2928	697.2928	0.2091		702.5192
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9673**	**3.4917**	**4.3638**	**7.3500e-003**		**0.1669**	**0.1669**		**0.1553**	**0.1553**		**697.2928**	**697.2928**	**0.2091**		**702.5192**

3.8 Milling and Striping - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-003	0.2016	0.0527	6.1000e-004	0.0140	5.8000e-004	0.0146	3.8300e-003	5.6000e-004	4.3900e-003		65.7453	65.7453	4.6800e-003		65.8624
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0806	0.0530	0.6105	1.8700e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4500e-003	0.0548		186.2225	186.2225	5.1300e-003		186.3507
Total	**0.0871**	**0.2547**	**0.6632**	**2.4800e-003**	**0.2152**	**2.1500e-003**	**0.2173**	**0.0572**	**2.0100e-003**	**0.0592**		**251.9678**	**251.9678**	**9.8100e-003**		**252.2131**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3856	3.4917	4.3638	7.3500e-003		0.1669	0.1669		0.1553	0.1553	0.0000	697.2928	697.2928	0.2091		702.5192
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9673**	**3.4917**	**4.3638**	**7.3500e-003**		**0.1669**	**0.1669**		**0.1553**	**0.1553**	**0.0000**	**697.2928**	**697.2928**	**0.2091**		**702.5192**

3.8 Milling and Striping - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-003	0.2016	0.0527	6.1000e-004	0.0140	5.8000e-004	0.0146	3.8300e-003	5.6000e-004	4.3900e-003		65.7453	65.7453	4.6800e-003		65.8624
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0806	0.0530	0.6105	1.8700e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4500e-003	0.0548		186.2225	186.2225	5.1300e-003		186.3507
Total	**0.0871**	**0.2547**	**0.6632**	**2.4800e-003**	**0.2152**	**2.1500e-003**	**0.2173**	**0.0572**	**2.0100e-003**	**0.0592**		**251.9678**	**251.9678**	**9.8100e-003**		**252.2131**

3.9 Utility Boring - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2241	2.2664	2.0411	9.4400e-003		0.0728	0.0728		0.0669	0.0669		913.5608	913.5608	0.2955		920.9474
Total	**0.2241**	**2.2664**	**2.0411**	**9.4400e-003**		**0.0728**	**0.0728**		**0.0669**	**0.0669**		**913.5608**	**913.5608**	**0.2955**		**920.9474**

3.9 Utility Boring - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0134	8.8400e-003	0.1018	3.1000e-004	0.0335	2.6000e-004	0.0338	8.8900e-003	2.4000e-004	9.1300e-003		31.0371	31.0371	8.5000e-004		31.0585
Total	**0.0134**	**8.8400e-003**	**0.1018**	**3.1000e-004**	**0.0335**	**2.6000e-004**	**0.0338**	**8.8900e-003**	**2.4000e-004**	**9.1300e-003**		**31.0371**	**31.0371**	**8.5000e-004**		**31.0585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2241	2.2664	2.0411	9.4400e-003		0.0728	0.0728		0.0669	0.0669	0.0000	913.5608	913.5608	0.2955		920.9474
Total	**0.2241**	**2.2664**	**2.0411**	**9.4400e-003**		**0.0728**	**0.0728**		**0.0669**	**0.0669**	**0.0000**	**913.5608**	**913.5608**	**0.2955**		**920.9474**

3.9 Utility Boring - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0134	8.8400e-003	0.1018	3.1000e-004	0.0335	2.6000e-004	0.0338	8.8900e-003	2.4000e-004	9.1300e-003		31.0371	31.0371	8.5000e-004		31.0585
Total	**0.0134**	**8.8400e-003**	**0.1018**	**3.1000e-004**	**0.0335**	**2.6000e-004**	**0.0338**	**8.8900e-003**	**2.4000e-004**	**9.1300e-003**		**31.0371**	**31.0371**	**8.5000e-004**		**31.0585**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	23.0800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**23.2845**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.10 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	23.0800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**23.2845**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.10 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5843	7.5475	28.0051	0.1152	10.4829	0.0865	10.5694	2.8053	0.0805	2.8858		11,727.5655	11,727.5655	0.5499		11,741.3128
Unmitigated	1.5843	7.5475	28.0051	0.1152	10.4829	0.0865	10.5694	2.8053	0.0805	2.8858		11,727.5655	11,727.5655	0.5499		11,741.3128

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
General Office Building	617.29	617.29	617.29	4,929,809	4,929,809
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	617.29	617.29	617.29	4,929,809	4,929,809

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
General Office Building	37.40	8.40	6.90	47.00	47.00	6.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
General Office Building	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Other Asphalt Surfaces	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Parking Lot	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Unrefrigerated Warehouse-No Rail	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750
NaturalGas Unmitigated	0.0150	0.1366	0.1147	8.2000e-004		0.0104	0.0104		0.0104	0.0104		163.9011	163.9011	3.1400e-003	3.0000e-003	164.8750

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	342.164	3.6900e-003	0.0336	0.0282	2.0000e-004		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003		40.2546	40.2546	7.7000e-004	7.4000e-004	40.4939
General Office Building	1046.7	0.0113	0.1026	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003		123.1417	123.1417	2.3600e-003	2.2600e-003	123.8734
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	4.29041	5.0000e-005	4.2000e-004	3.5000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5048	0.5048	1.0000e-005	1.0000e-005	0.5078
Total		**0.0150**	**0.1366**	**0.1147**	**8.2000e-004**		**0.0104**	**0.0104**		**0.0104**	**0.0104**		**163.9010**	**163.9010**	**3.1400e-003**	**3.0100e-003**	**164.8750**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0.342164	3.6900e-003	0.0336	0.0282	2.0000e-004		2.5500e-003	2.5500e-003		2.5500e-003	2.5500e-003		40.2546	40.2546	7.7000e-004	7.4000e-004	40.4939
General Office Building	1.0467	0.0113	0.1026	0.0862	6.2000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003		123.1417	123.1417	2.3600e-003	2.2600e-003	123.8734
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.00429041	5.0000e-005	4.2000e-004	3.5000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5048	0.5048	1.0000e-005	1.0000e-005	0.5078
Total		**0.0150**	**0.1366**	**0.1147**	**8.2000e-004**		**0.0104**	**0.0104**		**0.0104**	**0.0104**		**163.9010**	**163.9010**	**3.1400e-003**	**3.0100e-003**	**164.8750**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Unmitigated	1.0799	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1265					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6500e-003	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Total	**1.0799**	**2.6000e-004**	**0.0286**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0613**	**0.0613**	**1.6000e-004**		**0.0653**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1265					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6500e-003	2.6000e-004	0.0286	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0613	0.0613	1.6000e-004		0.0653
Total	**1.0799**	**2.6000e-004**	**0.0286**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0613**	**0.0613**	**1.6000e-004**		**0.0653**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	100	670	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (600 - 750 HP)	0.0646	0.2804	2.3722	5.2800e-003		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003		562.4745	562.4745	0.0789		564.4459
Total	**0.0646**	**0.2804**	**2.3722**	**5.2800e-003**		**8.6300e-003**	**8.6300e-003**		**8.6300e-003**	**8.6300e-003**		**562.4745**	**562.4745**	**0.0789**		**564.4459**

11.0 Vegetation

Appendix C

Health Risk Assessment Memorandum and Supporting Documentation

CHP Baldwin Park Area
Office Replacement Project
Human Health Risk Assessment

Prepared by Horizon Water and Environment

June 2019

ACRONYMS AND ABBREVIATIONS

A	absorption
ASF	age sensitivity factor
AT	averaging time
BAAQMD	Bay Area Air Quality Management District
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CF	conversion factor
CHP	California Highway Patrol
CPF	cancer potency factor
DBR	daily breathing rate
DPM	diesel particulate matter
ED	exposure duration
EF	exposure frequency
ET	exposure time
HI	hazard index
HQ	hazard quotient
HRA	health risk assessment
LDT1	light-duty truck 1
l/kg-day	liters per kilogram-day
m	meters
MBTE	methyl tertiary-butyl ether
mg/kg-day	milligrams per kilogram-day
OEHHA	[California] Office of Environmental Health Hazard Assessment
PM	particulate matter
REL	reference exposure level
SCAQMD	South Coast Air Quality Management District

TAC	toxic air contaminant
TAF	time adjustment factor
TOG	total organic gases
USEPA	U.S. Environmental Protection Agency
ºF	degrees Fahrenheit
ºK	degrees Kelvin
$\mu g/m^3$	micrograms per cubic meter

INTRODUCTION

The California Highway Patrol (CHP) is conducting a statewide effort to replace aging or inadequate CHP field offices and other facilities. The purpose of this memorandum is to document development of a set of air dispersion modeling parameters that can be combined with emission rates and location-to-sensitive-receptor information for the CHP Baldwin Park Area Office activities to evaluate the health impacts from operation of the proposed CHP Area Office. Activities that are typical at CHP Area Offices include testing of emergency generators, use of refueling pumps, and vehicle idling.

This memorandum describes the methodology used to generate generic air dispersion factors, exposure factors, and toxicity information. In addition, it describes how the generic parameters can be combined with site-specific emission rate information to derive a final estimate of health impacts. Health impacts associated with construction emissions are evaluated qualitatively because the project construction periods are short in duration. This memorandum concludes with the site-specific results for the CHP Baldwin Park Area Office Replacement Project.

TOXIC AIR CONTAMINANTS

Diesel exhaust is a complex mixture that includes hundreds of individual constituents and is identified by the State of California as a known carcinogen. Diesel particulate matter (DPM) could be emitted from the emergency diesel generators during periodic testing, and various gasoline fuel-related toxic air contaminants (TACs) would be emitted from the refueling pump station and idling vehicles in the parking lots. Specifically, TACs such as benzene, toluene, ethylbenzene, 1,3-butadiene, acrolein, and xylenes may be emitted from the refueling pump station and idling vehicles. Because several types of sensitive receptors may be present in the project area, a screening-level quantitative health risk assessment (HRA) was conducted to estimate the potential health risks to these sensitive receptors during project operation.

SCREENING-LEVEL HEALTH RISK ASSESSMENT

To evaluate the impacts of DPM and TACs on nearby sensitive receptors, an HRA was conducted consistent with the Office of Environmental Health Hazard Assessment (OEHHA) guidance for determining local community risks and hazards (OEHHA 2015). The HRA is used to evaluate the health risks associated with the CHP Baldwin Park Area Office Replacement Project. The HRA evaluated project emissions associated with testing of the emergency generator, refueling pump emissions, and vehicle idling. Detailed information on the methodology and data used to conduct the HRA is summarized below. The screening-level HRA involved estimating emissions of DPM and TACs, followed by screening-level air dispersion modeling using the AERSCREEN modeling program to estimate ambient air concentrations at various distances from the source. After the ambient air concentrations were determined, these were combined with exposure parameters and toxicity information to determine health impacts on nearby sensitive receptors.

EMISSIONS

The emissions for emergency generator testing were estimated using California Emissions Estimator Model (CalEEMod) version 2016.3.2; it was assumed that the generator would be in operation for 1 hour on 100 days per year. This allows for short weekly and longer monthly testing periods that are required for the CHP station facility. For chronic and cancer assessments, the emissions were amortized over a year.

The idling emission factors were taken from the EMFAC 2014 model to be consistent with the CalEEMod emission factors. Exhaust emissions used in this analysis were at the 5-mile-per-hour running exhaust emission rate. These emissions were converted to an hourly emission rate by multiplying with a unit conversion factor of 5. Overall exhaust emissions were speciated[1] into emissions of individual TACs based on a typical vehicle exhaust profile (Bay Area Air Quality Management District [BAAQMD] 2012). Vehicle type was conservatively assumed to be equivalent to a light duty truck 1 (LDT1) vehicle class.

Refueling pump emissions were estimated for an above-ground storage tank with Phase II vent valve control equipment according to values in the California Air Pollution Control Officers Association's (CAPCOA's) *Gasoline Service Station Industrywide Risk Assessment Guidelines* (CAPCOA 1997). Overall refueling pump emissions were speciated into emissions of individual TACs based on profiles presented by CAPCOA (1997) except that methyl tertiary-butyl ether (MTBE) was removed because it is no longer present in gasoline.

AIR DISPERSION

The dispersion of emissions in ambient air was simulated using the U.S. Environmental Protection Agency's (USEPA's) approved model, AERSCREEN, which is a screening model based on the AERMOD modeling system. The model inputs and assumptions are summarized below.

Emission Rate: A unit emission rate was used in the AERSCREEN analysis, which allows for the AERSCREEN results or dispersion factors to be multiplied by project-specific emission rates to identify the project-specific ambient air concentrations.

Meteorological Data: AERSCREEN uses the MAKEMET program to generate worst-case meteorological data based on the range in temperatures and minimum wind speed. The default temperature range of 250-310 degrees Kelvin (approximately -10 degrees Fahrenheit [°F] to 100°F) was used. The default wind speed of 0.5 meter per second was used.

Surface parameters: AERSCREEN requires estimates of the surface roughness, albedo, and Bowen ratio[2]. AERSURFACE is a tool that processes land cover data to

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[1] Speciation profiles provide estimates of the chemical composition of emissions, and are used in emission inventory and air quality models (California Air Resources Board [CARB] 2015). As an example, CARB maintains and updates estimates of the chemical composition and size fractions of particulate matter (PM) and the chemical composition and reactive fractions of total organic gases (TOG) for a variety of emission source categories.

[2] Albedo is the fraction of solar energy reflected from the Earth back into space. The Bowen ratio is an indicator of surface moisture. The surface roughness length is related to the height of obstacles to wind flow and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer.

determine surface characteristics for use in the meteorological inputs to AERSCREEN. Using information in the AERSURFACE user's guide (USEPA 2013), the albedo, Bowen ratio, and surface roughness for the "commercial/industrial/transportation not at an airport" land cover classification was selected and assumed to be constant throughout the year. Albedo was 0.18, Bowen ratio was 1.5, and surface roughness was 0.7.

Terrain: Terrain was assumed to be flat. Receptors were modeled at 25-meter increments from the source out to 5,000 meters and at a height of 1.5 meters.

Source Parameters: Emergency generators were modeled as point sources of large or small size. Vehicle idling emissions were modeled with a volume source equivalent to the size of a parking space. Refueling pump emissions used volume sources for refueling and spillage emissions and point sources for loading and breathing emissions, consistent with recommendations from CAPCOA's *Gasoline Service Station Industrywide Risk Assessment Guidelines* (CAPCOA 1997). Details of source parameters are shown in **Table C-1**.

The output of AERSCREEN is the 1-hour maximum air concentration under worst-case meteorological conditions. The AERSCREEN user's guide (USEPA 2016) recommends that a factor of 0.1 is used to adjust the 1-hour maximum air concentration to annual average air concentration.

Table C-1 Model Source Parameters

Source	Model Source Type	Temperature (ºK)	Exit Velocity (m/sec)	Diameter (m)	Stack Height (m)	Release Height (m)	Lateral Dimension (m)	Vertical Dimension (m)
Emergency Generator (Small)	Point	754.96	81.71	0.13	2.42	--	--	--
Emergency Generator (Large)	Point	793.56	92.45	0.16	3.71	--	--	--
Vehicle Idling	Volume	--	--	--	--	0.5	1.40	1.40
Refueling – Loading	Point	291	0.00177	0.0508	3.66	--	--	--
Refueling – Breathing	Point	298	0.000224	0.0508	3.66	--	--	--
Refueling – Refueling	Volume	--	--	--	--	1	3.02	1.86
Refueling – Spillage	Volume	--	--	--	--	0	3.02	1.86

Notes:

m = meters, m/sec = meters per second, ºK = degrees Kelvin

EXPOSURE FACTORS

Potential sensitive receptors were characterized as residents, day-care children, school children, medical patients, senior center users, and recreational users. The maximally exposed receptor for each of these categories near the project site, if present, is reported.

The exposure parameters used to estimate excess lifetime cancer risks and chronic non-cancer Hazard Index (HI) for all potentially exposed populations were obtained using risk assessment guidelines from OEHHA (2015).

The inhalation dose is a function of the concentration of a chemical and the intake of that chemical. The dose can be calculated as follows:

$$Dose = \frac{Conc * DBR * ET * EF * ED * CF}{AT}$$

Where:

Dose = Dose of chemical (milligrams per kilogram-day [mg/kg-day])
Conc = Chemical concentration in air (micrograms per cubic meter [$\mu g/m^3$])
DBR = Daily Breathing Rate (liters per kilogram-day [l/kg-day])
ET = Exposure Time (hours/day)
EF = Exposure Frequency (days/year)

ED = Exposure Duration (years)
AT = Averaging Time (days)
CF = Conversion Factor (cubic meters per liter [m^3/l] and milligrams per microgram [mg/μg])

The DBR was set to the 95th percentile for third trimester, 0-2 years, 2-15 years, and 16-70 years as recommended by OEHHA (2015). The exposure frequency for residents was 350 days per year, consistent with a resident being present at the home except for a 2-week vacation. Exposure frequency was 180 days and 250 days for school children and day-care children, respectively, as recommended by OEHHA (2015). The averaging time was based on 70 years. The details of the exposure factors for each receptor type are shown in **Table C-2**.

Table C-2 Exposure Parameters and Age Specific Factors

Sensitive Population Type	Age	DBR	EF	TAF	CF	A	ED	ASF	AT
Resident Child	3rd trimester	361	350	1	1.00E-06	1	0.25	10	25550
	0<2	1090	350	1	1.00E-06	1	2	10	25550
	2<16	745	350	1	1.00E-06	1	14	3	25550
Resident Adult	16<70	290	350	1	1.00E-06	1	14	1	25550
Daycare	0<2	1200	250	1	1.00E-06	1	2	10	25550
	2<9	640	180	1	1.00E-06	1	4	3	25550
Preschool	2<9	640	180	1	1.00E-06	1	2.5	3	25550
School Child – Elementary	2<9	640	180	1	1.00E-06	1	6	3	25550
School Child – Middle	2<16	520	180	1	1.00E-06	1	3	3	25550
School Child – High School	2<16	520	180	1	1.00E-06	1	4	1.5	25550
Medical Patient – Child	0<2	1090	350	1	1.00E-06	1	1	10	25550
Medical Patient – Adult	16<70	290	350	1	1.00E-06	1	1	1	25550
Recreation Child	2<9	640	350	1	1.00E-06	1	9	3	25550
Recreation Adult	16<70	230	350	1	1.00E-06	1	40	1	25550
Senior Center	16<70	230	350	1	1.00E-06	1	40	1	25550

Notes:

1. A = absorption; ASF = age sensitivity factor; AT = averaging time; CF = conversion factor; DBR = daily breathing rate; ED = exposure duration; EF = exposure frequency; TAF = time adjustment factor.
2. It was assumed that the emergency generator is tested outside of normal school hours so schools and day-care children are not exposed to these emissions.
3. Exposure Frequency (EF) was assumed to be 350 days per year, except school children were assumed to be exposed 180 days per year and day-care children 250 days per year.
4. Residential exposure was assumed to be 30 years with a continuously aging child from third trimester onward from construction through operation.
5. Exposure duration (ED) of school children was assumed to be 6 years of elementary school, 3 years of middle school, and 4 years of high school. ED of recreation child was assumed to be 9 years. ED for recreation adult and senior center was assumed to be 40 years. ED for medical patients was assumed to be 1 year.
6. The school child, recreation user, and senior center breathing rates are based on the 8-hour breathing rate for moderate-intensity activities.
7. Averaging time is based on a 70-year lifetime cancer risk.

TOXICITY ASSESSMENT

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories: cancer and non-cancer endpoints. Toxicity values, used to estimate the likelihood of adverse effects occurring in humans at different exposure levels, are identified as part of the toxicity assessment component of a risk assessment.

In this HRA, diesel exhaust is the only chemical of potential concern that was quantified. Under California regulatory guidelines, DPM is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole. For gasoline and gasoline exhaust, the individual chemicals making up the primary components were used to estimate health effects based on common speciation profiles.

The estimated excess lifetime cancer risk for a resident was adjusted using the age sensitivity factors (ASFs) recommended by OEHHA (2015). This approach accounts for an "anticipated special sensitivity to carcinogens" of infants and children. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age and by a factor of 3 for exposures that occur from 2 years through 15 years of age. No weighting factor (i.e., an ASF of 1, which is equivalent to no adjustment) is applied to exposure from ages 16 to 70 years. These ASFs are shown in **Table C-2**.

Excess lifetime cancer risks are estimated as the upper-bound incremental probability[3] that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs if the chemical is being inhaled) by the chemical-specific cancer potency factor (CPF).

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Risk_i = Dose * CPF_i * ASF$$

Where:

$Risk_i$ = Cancer Risk, the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)

Dose = Dose of chemical (mg/kg-day)

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[3] The upper-bound incremental probability means that the "true carcinogenic risk" of an individual is unlikely to exceed the model-derived cancer risk estimates and, therefore, is likely to be less than the predicted (modeled) risk (USEPA 2012). Thus, the modeled cancer risks would represent a conservative scenario.

CPF_i = Cancer Potency Factor for Chemical I (mg chemical/kg body weight-day)$^{-1}$

ASF = Age Sensitivity Factor (unitless)

The CPFs for potential carcinogens that are anticipated to be present at the project site are shown in **Table C-3**.

The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the chemical-specific non-cancer chronic reference exposure level (RELs). When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding an HI.

The equations used to calculate the chemical-specific HQs and the overall HI are:

$$Chronic\ HQ_i = C_i/REL_i$$

$$Chronic\ HI = \sum HQ_i$$

Where:

Chronic HQ_i = Chronic Hazard Quotient for $Chemical_i$ (unitless)

Chronic HI = Hazard Index (unitless)

C_i = Annual average air concentration for $Chemical_i$ (µg/m^3)

REL_i = Chronic Non-cancer Reference Exposure Level for $Chemical_i$ (µg/m^3)

Acute non-cancer impacts were estimated in a similar manner to chronic non-cancer impacts, by estimating the HQs for all chemicals and summing them to yield an HI. Table C-3 contains the chronic and acute RELs used in this screening HRA.

For this screening HRA, the HQs were conservatively summed without considering end target organs or systems.

Table C-3. Toxicity Parameters and Speciation Profiles

Toxic Air Components	Acute REL^2 (µg/m^3)	Chronic REL^2 (µg/m^3)	Cancer Potency Factor^2 (mg/kg-day)	Idling Speciation	Refueling Speciation – Vapor	Refueling Speciation – Liquid
Acetaldehyde	470	140	1.00E-02	0.0028	0	0
Acrolein	2.5	0.35	--	0.0013	0	0
Benzene	27	3	1.00E-01	0.0247	0.003	0.01
1,3-Butadiene	--	20	6.00E-01	0.0055	0	0
DPM	--	5	1.10E+00	0	0	0
Ethylbenzene	--	2000	8.70E-03	0.0105	0	0.016
Formaldehyde	55	9	2.10E-02	0.0158	0	0
Hexane	--	7000	--	0.016	0	0
Methanol	28000	4000	--	0.0012	0	0
Methyl Ethyl Ketone	13000	--	--	0.0002	0	0
Naphthalene	--	9	1.20E-01	0.0005	0	0
Propylene	--	3000	--	0.0306	0	0
Styrene	21000	900	--	0.0012	0	0
Toluene	37000	300	--	0.0576	0	0.08
Xylenes	22000	700	--	0.048	0	0.024

Notes:

µg/ m^3 = micrograms per cubic meter; mg/kg-day = milligrams per kilogram-day

Sources: BAAQMD 2012, CAPCOA 1997, EMFAC 2014 model, OEHHA/ARB 2017

PROJECT-SPECIFIC HRA RESULTS

CONSTRUCTION HEALTH EFFECTS

During project construction, DPM and gasoline fuel combustion emissions that are classified as TACs could be emitted from construction equipment. The construction period for the CHP Area Office facilities is short in duration (approximately 24 months with the majority of the work occurring within 15 months) and will not extend over a long period. Due to the variable nature of construction activity, the generation of TAC emissions would be temporary in most cases, especially considering the short amount of time such equipment is typically within an influential distance to expose sensitive receptors to substantial emission concentrations.

Chronic and cancer health effects estimated over short periods are uncertain for several reasons. CPFs are based on animal lifetime studies or worker studies with long-term exposure to the carcinogenic agent. Considerable uncertainty exists in trying to evaluate the cancer risk from a project that would last only a small fraction of a lifetime. Some studies indicate that the dose rate affects the potency of a given dose of a carcinogenic chemical. In other words, a dose delivered over a short period may have a different potency than the same dose delivered over a lifetime (OEHHA 2015). Furthermore, construction impacts are most substantial adjacent to the construction area and decrease rapidly with distance. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005). Given the uncertainty of estimating chronic health effects over a short period, combined with the uncertainty in conducting only a screening-level HRA, health effects from construction are not quantified.

OPERATIONAL HEALTH IMPACTS

To estimate the health impacts at the CHP Baldwin Park Area Office facilities during operations, the AERSCREEN model runs for each source type were tabulated by distance from the source to a sensitive receptor location. The distance of each source to the sensitive receptor location was rounded to the nearest 25-meter increment. When the distance was entered, the AERSCREEN dispersion factor for that specific source/receptor combination was determined and multiplied by the specific source emission factor to obtain the air concentration at the receptor location. Next, the exposure factors and toxicity information were combined with the air concentrations to estimate the health effects. Finally, the health effects were summed across all sources for each receptor type and location. The detailed values for these calculations are found in Attachment A. The health impacts for each receptor type at the proposed CHP Baldwin Park Area Office are shown in **Table C-4**.

Emissions at the proposed CHP Baldwin Park Area Office would not result in health impacts above the Air District's 10 in 1 million cancer significance threshold (SCAQMD 2015) applicable to this region or exceed the chronic and acute HI of 1. This is based on the operation of a large emergency generator for 100 hours of testing a year and a refueling pump station throughput of 153,000 gallons per year, as well as up to two vehicles idling at all times. The cancer health risk for all sensitive receptors would be substantially less and well below the threshold of 10 in 1 million cancers.

Table C-4. CHP Baldwin Park Area Office Health Risk Assessment Results

Emission Source	Resident	Daycare	Preschool	Elementary School	Middle School	High School	Medical Child	Medical Adult	Recreation Child	Recreation Adult	Senior Center
Cancer Risk by Sensitive Receptor Type/Location											
Emergency Generator (Large)	6.42E-08	6.79E-09	8.15E-10	3.70E-09	8.34E-10	6.08E-10	4.43E-09	1.18E-10	1.50E-08	8.00E-09	3.18E-09
Vehicle Idling	9.25E-07	4.67E-09	5.60E-10	1.67E-08	6.35E-10	5.30E-10	6.65E-09	1.77E-10	9.95E-08	5.30E-08	2.26E-09
Truck Idling	1.86E-07	9.42E-10	1.13E-10	3.37E-09	1.28E-10	1.07E-10	1.34E-09	3.56E-11	2.01E-08	1.07E-08	4.56E-10
Refueling-Loading	1.73E-08	2.63E-10	3.24E-11	7.09E-10	3.71E-11	3.06E-11	4.47E-10	1.19E-11	3.46E-09	1.84E-09	1.37E-10
Refueling-Breathing	2.18E-09	3.32E-11	4.09E-12	8.95E-11	4.68E-12	3.86E-12	5.64E-11	1.50E-12	4.37E-10	2.32E-10	1.72E-11
Refueling-Refueling	3.63E-08	5.78E-10	7.12E-11	1.50E-09	8.15E-11	6.72E-11	9.44E-10	2.51E-11	7.28E-09	3.87E-09	3.00E-10
Refueling-Spillage	1.14E-07	1.84E-09	2.27E-10	4.69E-09	2.60E-10	2.14E-10	2.97E-09	7.91E-11	2.28E-08	1.21E-08	9.57E-10
Total	1.34E-06	1.51E-08	1.82E-09	3.08E-08	1.98E-09	1.56E-09	1.68E-08	4.48E-10	1.69E-07	8.98E-08	7.31E-09

Emission Source	Resident	Daycare	Preschool	Elementary School	Middle School	High School	Medical Child	Medical Adult	Recreation Child	Recreation Adult	Senior Center
Chronic Hazard Index											
Emergency Generator (Large)	1.40E-05	4.27E-06	4.38E-06	8.28E-06	4.60E-06	5.03E-06	5.40E-06	5.40E-06	1.15E-05	1.15E-05	4.59E-06
Vehicle Idling	2.53E-03	3.69E-05	3.78E-05	4.70E-04	4.40E-05	5.51E-05	1.02E-04	1.02E-04	9.60E-04	9.60E-04	4.09E-05
Truck Idling	4.06E-05	5.92E-07	6.06E-07	7.54E-06	7.06E-07	8.84E-07	1.63E-06	1.63E-06	1.54E-05	1.54E-05	6.57E-07
Refueling-Loading	6.92E-05	3.03E-06	3.19E-06	2.91E-05	3.75E-06	4.64E-06	9.97E-06	9.97E-06	4.87E-05	4.87E-05	3.61E-06
Refueling-Breathing	8.73E-06	3.83E-07	4.03E-07	3.68E-06	4.73E-07	5.86E-07	1.26E-06	1.26E-06	6.15E-06	6.15E-06	4.56E-07
Refueling-Refueling	1.45E-04	6.67E-06	7.02E-06	6.14E-05	8.24E-06	1.02E-05	2.11E-05	2.11E-05	1.02E-04	1.02E-04	7.94E-06
Refueling-Spillage	4.36E-04	2.04E-05	2.15E-05	1.85E-04	2.52E-05	3.11E-05	6.37E-05	6.37E-05	3.08E-04	3.08E-04	2.43E-05
Total	**3.25E-03**	**7.22E-05**	**7.48E-05**	**7.65E-04**	**8.69E-05**	**1.08E-04**	**2.05E-04**	**2.05E-04**	**1.45E-03**	**1.45E-03**	**8.25E-05**
Acute Hazard Index											
Emergency Generator (Large)	5.13E-04	1.56E-04	1.60E-04	3.03E-04	1.68E-04	1.84E-04	1.98E-04	1.98E-04	4.23E-04	4.23E-04	1.68E-04
Vehicle Idling	3.06E-03	4.46E-05	4.56E-05	5.68E-04	5.31E-05	6.65E-05	1.23E-04	1.23E-04	1.16E-03	1.16E-03	4.95E-05
Truck Idling	9.75E-03	1.42E-04	1.45E-04	1.81E-03	1.69E-04	2.12E-04	3.91E-04	3.91E-04	3.70E-03	3.70E-03	1.58E-04
Refueling-Loading	7.68E-05	3.37E-06	3.55E-06	3.24E-05	4.16E-06	5.16E-06	1.11E-05	1.11E-05	5.41E-05	5.41E-05	4.01E-06
Refueling-Breathing	9.70E-06	4.25E-07	4.48E-07	4.09E-06	5.26E-07	6.51E-07	1.40E-06	1.40E-06	6.83E-06	6.83E-06	5.07E-07
Refueling-Refueling	1.62E-04	7.41E-06	7.80E-06	6.82E-05	9.15E-06	1.13E-05	2.34E-05	2.34E-05	1.14E-04	1.14E-04	8.83E-06
Refueling-Spillage	4.47E-04	2.09E-05	2.20E-05	1.90E-04	2.58E-05	3.19E-05	6.53E-05	6.53E-05	3.16E-04	3.16E-04	2.49E-05
Total	**1.40E-02**	**3.75E-04**	**3.85E-04**	**2.98E-03**	**4.31E-04**	**5.12E-04**	**8.13E-04**	**8.13E-04**	**5.77E-03**	**5.77E-03**	**4.13E-04**

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Attachment A

Table C-A-1a CHP Baldwin Park Area Office – Specific Parameters

	Sensitive Receptor Type													
	Resident Child	**Resident Adult**	**Day Care**	**Preschool**	**Elementary School**	**Middle School**	**High School**	**Medical Child**	**Medical Adult**	**Recreation Child**	**Recreation Adult**	**Senior Center**	**1 hour max Emission Factor**	**Annual Emission Factor**
Parameter	**Distance (m)**												**g/s**	
Emergency Generator (Large)	215	215	2670	2480	368	2010	1530	674	674	264	264	2070	4.53067E-05	1.23696E-05
Vehicle Idling	82	82	2540	2450	267	2010	1475	750	750	167	167	2210	0.000420222	0.000420222
Truck Idling	82	82	2540	2450	267	2010	1475	750	750	167	167	2210	1.16012E-05	4.83383E-07
Refueling-Loading	187	187	2650	2490	342	2020	1510	700	700	234	234	2100	0.000924271	0.000924271
Refueling-Breathing	187	187	2650	2490	342	2020	1510	700	700	234	234	2100	0.000116634	0.000116634
Refueling-Refueling	187	187	2650	2490	342	2020	1510	700	700	234	234	2100	0.001386407	0.001386407
Refueling-Spillage	187	187	2650	2490	342	2020	1510	700	700	234	234	2100	0.000924271	0.000924271

Table C-A-1b CHP Baldwin Park Area Office – Specific Parameters

Parameter	Sensitive Receptor Type											
	Resident Child	Resident Adult	Daycare	Preschool	Elementary School	Middle School	High School	Medical Child	Medical Adult	Recreation Child	Recreation Adult	Senior Center
	1-hr max Dispersion Factor (µg/m³/g/s)											
Emergency Generator (Large)	56.6	56.6	17.3	17.7	33.5	18.6	20.3	21.8	21.8	46.7	46.7	18.5
Vehicle Idling	4204.1	4204.1	61.3	62.7	780.1	73.0	91.4	168.6	168.6	1593.0	1593.0	68.0
Truck Idling	4204.1	4204.1	61.3	62.7	780.1	73.0	91.4	168.6	168.6	1593.0	1593.0	68.0
Refueling-Loading	748.3	748.3	32.8	34.5	315.3	40.5	50.2	107.9	107.9	527.0	527.0	39.1
Refueling-Breathing	748.4	748.4	32.8	34.6	315.3	40.6	50.2	107.9	107.9	527.0	527.0	39.1
Refueling-Refueling	1048.5	1048.5	48.1	50.6	442.9	59.4	73.5	152.1	152.1	739.1	739.1	57.3
Refueling-Spillage	1295.8	1295.8	60.6	63.8	549.4	74.8	92.5	189.1	189.1	914.9	914.9	72.1

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Appendix D

Biological Resources Background Information

Table D–1
Special-Status Wildlife and Plant Species in the Known Vicinity of the CHP Baldwin Park Area Office Replacement Project Site

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Plants					
Abronia villosa var. *aurita* Chaparral sand-verbena	--	--	1B.1	Chaparral, coastal scrub, desert dunes. Sandy areas. Found at elevations of 75-1,600 meters above mean sea level (amsl). Blooms March through September.	**None.** Suitable chaparral, coastal scrub or desert dune habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Acanthoscyphus parishii var. *parishii* Parish’s oxytheca	--	--	4.2	Chaparral, lower montane coniferous forest. Sandy or gravelly soils. Found at elevations of 1,220-2,600 meters amsl. Blooms June through September.	**None.** Suitable chaparral or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Amaranthus watsonii Watson’s amaranth	--	--	4.3	Mojavean desert scrub, Sonoran desert scrub. Found at elevations of 20-1,700 meters amsl. Blooms April through September.	**None.** Suitable desert scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Androsace elongata ssp. *acuta* California androsace	--	--	4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland. Dry grassy slopes. Found at elevations of 150-1,305 meters amsl. Blooms March through June.	**None.** Suitable chaparral, woodland, scrub, meadow, seep or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Arctostaphylosglandulosa ssp. *gabrielensis* San Gabriel manzanita	--	--	1B.2	Chaparral, rocky. Granitic soils. Found at elevations of 950-2,000 meters amsl. Blooms January through April.	**None.** Suitable chaparral or rocky habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Asplenium vespertinum Western spleenwort	--	--	4.2	Rocky, chaparral, cismontane woodland, coastal scrub. Base of overhanging boulders. Found at elevations of 180-1,000 meters amsl. Blooms February through June.	**None.** Suitable rocky, chaparral, woodland, or scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Astragalus bicristatus Crested milk-vetch	--	--	4.3	Lower montane and upper montane coniferous forests. Sandy or rocky, mostly carbonate soils. Found at elevations of 1,700-2,745 meters amsl. Blooms May through August.	**None.** Suitable forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Astragalus brauntonii Braunton's milk-vetch	FE	--	1B.1	Chaparral, coastal scrub, valley and foothill grassland. Recent burned or disturbed areas, usually in sandstone with carbonate layers. Found at elevations of 4-640 meters amsl. Blooms January through August.	**None.** Suitable chaparral, scrub, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Atriplex coulteri Coulter's saltbush	--	--	1B.2	Coastal bluff scrub and dunes, valley and foothill grassland. Alkaline or clay soils. Found at 3-460 meters amsl. Blooms March through October.	**None.** Suitable coastal or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Atriplex parishii Parish's brittlescale	--	--	1B.1	Shadscale shrub, alkali sink, freshwater wetlands, wetland-riparian. Playas and vernal pools. Alkaline or clay soils. Found at 25-1900 meters amsl. Blooms June through October.	**None.** Suitable shrub, sink, wetland, or riparian habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Atriplex serenana var. *davidsonii* Davidson's saltscale	--	--	1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. Found at elevations of 0-460 meters amsl. Blooms April through October.	**None.** Suitable scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Berberis nevinii Nevin's barberry	FE	CE	1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. Sandy to gravelly soils. Found at elevations of 290-1,575 meters amsl. Blooms March through June.	**None.** Suitable chaparral, woodland, or scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Brodiaea filifolia Thread-leaved brodiaea	FT	CE	1B.1	Chaparral openings, cismontane woodland, coastal scrub, playas, valley and foothill grasslands, vernal pools. Often found in clay soils. Found at elevations of 25-1,120 meters amsl. Blooms March through June.	**None.** Suitable chaparral, woodland, scrub, playas, grassland, or vernal pool habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Calochortus catalinae Catalina mariposa lily	--	--	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Found at elevations of 15-700 meters amsl. Blooms February through June.	**None.** Suitable chaparral, woodland, scrub, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Calochortus clavatus var. *gracilis* Slender mariposa-lily	--	--	1B.2	Chaparral, coastal scrub, valley and foothill grassland. Found at elevations of 320-1,000 meters amsl. Blooms March through June.	**None.** Suitable chaparral, coastal scrub, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Calochortus plummerae Plummer's mariposa-lily	--	--	4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. Found at elevations of 60-2,500 meters amsl. Blooms May through July.	**None.** Suitable scrub, grassland, woodland, or forest habitat is absent from the project site. One CNDDB occurrence is located approximately 1.5 east of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Calochortus weedii var. *intermedius* Intermediate mariposa-lily	--	--	1B.2	Chaparral, valley grassland, coastal sage scrub. Dry, rocky, open slopes. Found at elevations of 105-855 meters amsl. Blooms May through July.	**None.** Suitable chaparral, grassland, or scrub habitat is absent from the project site. Two CNDDB occurrences are located approximately 0.7 miles south and 1.25 miles east of the project site.
Calystegia felix Lucky morning-glory	--	--	1B.1	Meadows and seeps, riparian scrub. Possibly silty loam and alkaline soils. Found at elevations of 30-215 meters amsl. Blooms March through September.	**None.** Suitable meadow, seep, or scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Camissoniopsis lewisii Lewis' evening-primrose	--	--	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy or clay soils. Found at elevations of 0-300 meters amsl. Blooms March through June.	**None.** Suitable scrub, woodland, dune, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Castilleja gleasoni Mt. Gleason paintbrush	--	CR	1B.2	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Granitic soils. Found at elevations of 665-2,170 meters amsl. Blooms May through September.	**None.** Suitable chaparral, forest, or woodland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Centromadia parryi ssp. *australis* southern tarplant	--	--	1B.1	Valley and foothill grasslands that are seasonally flooded, along estuary edges. Alkaline soils, sometimes described as heavy white clay. Found at elevations of 0-230 meters amsl. Blooms May through November.	**None.** Suitable flooded valley, grassland, or estuary habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Centromadia pungens ssp. *laevis* Smooth tarplant	--	--	1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland.Alkaline soils. Found at elevations of 0-640 meters amsl. Blooms April through September.	**None.** Suitable scrub, meadows and seeps, playas, woodland, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Chorizanthe leptotheca Peninsular spineflower	--	--	4.2	Chaparral, coastal scrub, lower montane coniferous forest. Alluvial fan, granitic soils. Found at elevations of 300-1,900 meters amsl. Blooms May through August.	**None.** Suitable chaparral, scrub, or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Chorizanthe parryi var. *parryi* Parry's spineflower	--	--	1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Sandy or rocky soils in openings. Found at elevations of 275-1,220 meters amsl. Blooms April through June.	**None.** Suitable chaparral, woodland, scrub, or grassland habitat is absent from the project site. One CNDDB occurrence is located approximately 5 miles north of the project site.
Cladium californicum California sawgrass	--	--	2B.2	Meadows and seeps, marshes and swamps that are alkaline or freshwater. Found at elevations of 60-1,600 meters. Blooms June through September.	**None.** Suitable meadow and seep, marsh, or swamp habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Convolvulus simulans Small-flowered morning-glory	--	--	4.2	Openings in chaparral, coastal scrub, valley and foothill grassland. Found at elevations of 30-740 meters amsl. Blooms March through July.	**None.** Suitable chaparral, scrub, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Deinandra paniculata Paniculate tarplant	--	--	4.2	Coastal scrub, valley and foothill grassland, vernal pools. Usually vernally mesic, sometimes sandy soils. Found at elevations of 25-940 meters amsl. Blooms March through December.	**None.** Suitable scrub, grassland, or vernal pool habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Dodecahema leptoceras Slender-horned spineflower	FE	CE	1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan). Sandy soils. Found at elevations of 200-760 meters amsl. Blooms April through June.	**None.** Suitable chaparral, woodland, or scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Dudleya cymosa ssp. *crebrifolia* San Gabriel River dudleya	--	--	1B.2	Chaparral. Granitic soils. Found at elevations of 275-457 meters amsl. Blooms April through July.	**None.** Suitable chaparral habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Dudleya densiflora San Gabriel Mountains dudleya	--	--	1B.1	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Granitic soils, cliff and canyon walls.Found at elevations of 244-610 meters amsl. Blooms March through June.	**None.** Suitable chaparral, woodland, scrub, or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Dudleya multicaulis Many-stemmed dudleya	--	--	1B.2	Chaparral, coastal scrub, valley and foothill grassland. Heavy clay soils. Found at elevations of 1-910 meters amsl. Blooms April through July.	**None.** Suitable chaparral, scrub, or grassland habitat is absent from the project site. Several CNDDB occurrences are within 5 miles north and northeast of the project site, and the nearest one is approximately 0.75 miles south.
Fimbristylis thermalis Hot springs fimbristylis	--	--	2B.2	Meadows and seeps. Alkaline soils near hot springs. Found at elevations of 110-1,340 meters amsl. Blooms July through September.	**None.** Suitable meadow and seep habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Galium angustifoliuim ssp. *gabrielense* San Antonio Canyon bedstraw	--	--	4.3	Chaparral, lower montane coniferous forest. Granitic, sandy or rocky soils. Found at elevations of 1,200-2,650 meters amsl. Blooms April through August.	**None.** Suitable chaparral or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Galium grande San Gabriel bedstraw	--	--	1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Found at elevations of 425-1,500 meters amsl. Blooms January through July.	**None.** Suitable forest, chaparral, or woodland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Heuchera caespitosa Urn-flowered alumroot	--	--	4.3	Cismontane woodland, lower montane coniferous forest, riparian forest (montane), upper montane coniferous forest. Rocky soils. Found at elevations of 1,155-2,650 meters amsl. Blooms May through August.	**None.** Suitable woodland or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Horkelia cuneata var. *Puberula* Mesa horkelia	--	--	1B.1	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub. Sandy or gravelly openings. Found at elevations of 10-200 meters amsl. Blooms April-September.	**None.** Suitable forest, chaparral, dune, or scrub habitat is absent from the project site. Two CNDDB occurrences are located approximately 3.7 miles and 2.8 miles northeast of the project site.
Imperata brevifolia California satintail	--	--	2B.1	Chaparral, coastal scrub, mojavean desert scrub, meadows and seeps (often alkali), riparian scrub. Mesic soils. Found at elevations of 0-1,215 meters amsl. Blooms September through May.	**None.** Suitable chaparral, scrub, or meadow and seep habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Juglans californica Southern California black walnut	--	--	4.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland. Alluvial. Found at elevations of 50-900 meters amsl. Blooms March through August.	**None.** Suitable chaparral, woodland, or scrub habitat is absent from the project site. No CNDDB occur records within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	--	--	1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. Found at elevations of 1-1,375 meters amsl. Blooms February through June.	**None.** Suitable marsh, playa, or vernal pool habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Lepechinia fragrans Fragrant pitcher sage	--	--	4.2	Chaparral. Found at elevations of 20-1,310 meters amsl. Blooms March through October.	**None.** Suitable chaparral habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	--	--	4.3	Chaparral, coastal scrub. Dry soils, shrubland. Found at elevations of 4-1,435 meters amsl. Blooms January through July.	**None.** Suitable chaparral or scrub habitat is absent from the project site. One CNDDB occurrence is located approximately 2.6 miles east of the project site.
Lilium humboldtii ssp. *ocellatum* Ocellated Humboldt lily	--	--	4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Found at elevations of 30-1,800 meters amsl. Blooms March through August.	**None.** Suitable chaparral, woodland, scrub, or forest habitat is absent from the project site. No CNDDB occurrences occur within 5 miles of the project site.
Lilium parryi Lemon lily	--	--	1B.1	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Mesic soils. Found at elevations of 1,220-2,745 meters amsl. Blooms July through August.	**None.** Suitable forest or meadow and seep habitat is absent from the project site. No CNDDB occurrences occur within 5 miles of the project site.
Linanthus concinnus San Gabriel linanthus	--	--	1B.2	Chaparral, lower montane coniferous forest, upper montane coniferous forest. Rocky soils in openings. Found at elevations of 1,520-2,800 meters amsl. Blooms April through July.	**None.** Suitable chaparral or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Monardella australis ssp. *jokerstii* Jokerst's monardella	--	--	1B.1	Chaparral, lower montane coniferous forest. Steep scree or talus slopes between breccia, secondary alluvial benches along drainages and washes. Found at elevations of 1,350-1,750 meters amsl. Blooms July through September.	**None.** Suitable chaparral or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Monardella macrantha ssp. *hallii* Hall's monardella	--	--	1B.3	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Found at elevations of 730-2,195 meters amsl. Blooms June through October.	**None.** Suitable forest, chaparral, woodland, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Monardella saxicola Rock monardella	--	--	4.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest. Rocky, usually serpentinite soils. Found at elevations of 500-1,800 meters amsl. Blooms June through September.	**None.** Suitable forest or chaparral habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Muhlenbergia californica California muhly	--	--	4.3	Chaparral, coastal scrub, lower montane coniferous forest, meadows and seeps. Mesic, seeps and streambanks. Found at elevations of 100-2,000 meters amsl. Blooms June through September.	**None.** Suitable chaparral, scrub, forest, or meadows and seeps habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Navarretia prostrata Prostrate vernal pool navarretia	--	--	1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools. Mesic soils. Found at elevations of 3-1,210 meters amsl. Blooms April through July.	**None.** Suitable scrub, meadow and seep, grassland, or vernal habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Oreonana vestita Woolly mountain-parsley	--	--	1B.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest. Gravel or talus. Found at elevations of 1,615-3,500 meters amsl. Blooms March through September.	**None.** Suitable forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Orobanche valida ssp. *valida* Rock Creek broomrape	--	--	1B.2	Chaparral, pinyon and juniper woodland. Granitic soils. Found at elevations of 1,250-2,000 meters amsl. Blooms May through September.	**None.** Suitable chaparral or woodland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Phacelia cicutaria var. *hubbyi* Hubby's phacelia	--	--	4.2	Chaparral, coastal scrub, valley and foothill grassland. Gravelly, rocky and talus soils. Found at elevations of 0-1000 meters amsl. Blooms April through July.	**None.** Suitable chaparral, scrub, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Phacelia ramosissima var. *austrolitoralis* South coast branching phacelia	--	--	3.2	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt). Sandy, sometimes rocky soil. Found at elevations of 5-300 meters amsl. Blooms March through August.	**None.** Suitable chaparral, dune, scrub, marsh, or swamp habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Phacelia stellaris Brand's star phacelia	--	--	1B.1	Coastal dunes, coastal scrub. Sandy soil. Found at elevations of 1-400 meters amsl. Blooms March through June.	**None.** Suitable dune or scrub habitat is absent from the project site. One CNDDB occurrence is approximately 4.2 miles from the project site.
Pseudognaphalium leucocephalum White rabbit-tobacco	--	--	2B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy and gravelly soils. Found at elevations of 0-2100 meters amsl. Blooms July through December.	**None.** Suitable chaparral, woodland, or scrub is absent from the project site. One CNDDB occurrence is approximately 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Quercus durata var. *gabrielensis* San Gabriel oak	--	--	4.2	Chaparral, cismontane woodland. Found at elevations of 450-1,000 meters amsl. Blooms April through May.	**None.** Suitable chaparral or woodland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Quercus engelmannii Engelmann Oak	--	--	4.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Found at elevations of 50-1300 meters amsl. Blooms March through June.	**None.** Suitable chaparral, woodland, or grassland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Romneya coulteri Coulter's matilija poppy	--	--	4.2	Chaparral, coastal scrub. Often in burns. Found at elevations of 20-1,200 meters amsl. Blooms March through August.	**None.** Suitable chaparral or scrub habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Senecio aphanactis Chaparral ragwort	--	--	2B.2	Chaparral, cismontane woodland, coastal scrub. Sometimes alkaline. Found at elevations of 15-800 meters amsl. Blooms January through May.	**None.** Suitable chaparral, woodland, or scrub habitat is absent from the project site. One CNDDB occurrence is approximately 2 miles north of the project site.
Senecio astephanus San Gabriel ragwort	--	--	4.3	Coastal bluff scrub, chaparral. Rocky slopes. Found at elevations of 400-1,500 meters amsl. Blooms May through July.	**None.** Suitable scrub or chaparral habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Sidalcea neomexicana Salt spring checkerbloom	--	--	2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. Found at elevations of 0-1,530 meters amsl. Blooms March through June.	**None.** Suitable playa, chaparral, scrub, or forest habitat is absent at the project site. One CNDDB occurrence is approximately 5 miles northeast of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Sidotheca caryophylloides Chickweed oxytheca	--	--	4.3	Lower montane coniferous forest. Sandy soils. Found at elevations of 1,114-2,600 meters amsl.Blooms July through October.	**None.** Suitable forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Symphyotrichum defoliatum San Bernardino aster	--	--	1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. Occurs at elevations of 2-2,040 meters amsl. Blooms July through November.	**None.** Suitable meadow, seep, woodland scrub, forest marsh, swamp, or grassland habitat is absent from the project site. One CNDDB occurrence is approximately 2.5 east of the project site.
Symphyotrichum greatae Greata's aster	--	--	1B.3	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland. Mesic soils. Found at elevations of 300-2010 meters amsl. Blooms June through October.	**None.** Suitable forest, chaparral, or woodland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	--	--	2B.2	Meadows and seeps and streams. Found at elevations of 50-610 meters amsl. Blooms January through September.	**None.** Suitable meadow and seep or stream habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Thysanocarpus rigidus Rigid fringepod	--	--	1B.2	Pinyon and juniper woodland. Dry rocky slopes. Found at elevations of 600-2,200 meters amsl. Blooms February through May.	**None.** Suitable woodland habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Amphibians					
Ensatina eschscholtzii Large-blotched salamander	--	WL	N/A	Occurs in the Sierras and also along the entire coast of California. Most common in redwoods, but also found in a variety of coniferous forests: ponderosa pine, Douglas fir, mixed coniferous, montane hardwood, hardwood-conifer, mixed chaparral. Seek cover under logs, boards, rocks, moist leaf litter, rodent burrows.	**None.** Suitable redwood or forest habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Lithobates pipiens Northern leopard frog	--	SSC	N/A	Highly aquatic. Occurs near permanent/semi-permanent water in many habitats. Utilizes shoreline, submerged and emergent aquatic vegetation for cover. Cattail, sedge marshes, weedy ponds.	**None.** Suitable aquatic habitat and vegetation is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Rana boylii Foothill yellow-legged frog	--	CT/SSC	N/A	Occurs along coast ranges from the Oregon border south to the mountains of Los Angeles County. Rocky streams in valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, chaparral, wet meadows. Use rock surfaces for basking, take refuge under submerged rocks or sediments.	**None.** Suitable streams are absent in the proposed project area. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Rana muscosa Southern mountain yellow-legged frog	FE	CE	N/A	Isolated populations exist in the San Gabriel, San Bernardino and San Jacinto Mountains. In Southern California, restricted to streams in ponderosa pine, montane hardwood-conifer and montane riparian habitats. Utilize rocks and clumps of grass within a few jumps of water. May use rodent burrows near water.	**None.** Suitable streams in ponderosa pine, conifer, or riparian habitats are absent from the project site. No CNDDB records occur within 5 miles of the project site.
Spea hammondii Western spadefoot	--	SSC	N/A	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	**None.** Suitable upland grassland and woodland habitat and vernal pool breeding habitat is absent at the project site. No CNDDB records occur within 5 miles of the project site.
Taricha torosa ssp. *Torosa* Coast range newt	--	SSC	N/A	Occurs in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, mixed conifer types. Utilize rocks, debris, leaf packs in pools in streams, root maps along undercut banks, logs, mammal burrows, rock fissures, bases of standing trees, wells and other human-made structures.	**None.** Suitable hardwood, coniferous, chaparral, grassland, or stream habitat is absent from the project site. Two CNDDB occurrences are approximately 5 miles north of the project site.
Reptiles					
Anaxyrus californicus Arroyo toad	FE	SSC	N/A	Found in coastal semi-arid regions near washes or intermittent streams in valley-foothill, desert riparian, desert wash, palm oasis, mixed chaparral and sagebrush. Often found near rivers with sandy banks, willows, cottonwoods,	**None.** Suitable washes and intermittent stream habitat are absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
				sycamores, loose gravelly areas of streams.	
Anniella stebbinsi Southern California legless lizard	--	SSC	N/A	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	**None.** Suitable moist, loose soils and adequate leaf litter layers are absent at the project site. Additionally, there is routine soil disturbance in row crop areas. No CNDDB records occur within 5 miles of the project site.
Arizona elegans occidentalis California glossy snake	--	SSC	N/A	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Inhabits arid scrub, rocky washes, grasslands, chaparral. Prefers open areas and areas with loose soils for burrowing.	**None.** Suitable scrub, washes, grasslands and chaparral habitat is absent at the project site. Two CNDDB occurrences are approximately 5 miles northeast and 2.5 miles east of the project site.
Aspidoscelis hyperythra Orange-throated whiptail	--	WL	N/A	Found in Orange, Riverside, and San Diego counties west of the crest of the Peninsular Ranges in low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats. Take cover in dense vegetation and under surface objects such as rocks, logs, decaying vegetation, boards, rock crevices.	**None.** Suitable scrub, chaparral or valley-foothill hardwood habitats are absent from the project site. No CNDDB records occur within 5 miles of the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
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Aspidoscelis tigris stejnegeri Coastal whiptail	--	SSC	N/A	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	**None.** Suitable desert, woodland and riparian habitat is absent at the project site. Isolated marginal habitat exists in the open areas (i.e., row crops and bare soils in the storage area) of the project site for this species; however, the soil in these areas is routinely disturbed. Additionally, the isolated habitat would not be sufficient to sustain an isolated population of coastal whiptail.One CNDDB occurrence is approximately 1.8 miles from the project site, but the occurrence location is separated from the project site by dense commercial development interspersed by numerous surface streets.
Crotalus ruber Red-diamond rattlesnake	--	SSC	N/A	Found along coastal San Diego County to the eastern slopes of the mountains and north through western Riverside County into the southern area of San Bernardino County. Chaparral, woodland, and arid desert habitats in rocky areas and dense vegetation.	**None.** Suitable chaparral, woodland, or desert habitat is absent at the project site. No CNDDB records occur within 5 miles of the project site.
Emys marmorata Western pond turtle	--	SSC	N/A	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**None.** Suitable aquatic and upland habitat is absent at the project site. Aquatic habitat is also absent from the area immediately surrounding the project site. One CNDDB occurrence is approximately 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Phrynosoma blainvillii Coast horned lizard	--	SSC	N/A	Typically found in open sandy wash areas in deserts, chaparral and grasslands. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**None.** Suitable sandy wash, desert, chaparral and grassland habitat is absent from the project site. Routine soil disturbance in the row crop fields and in the storage area would also prevent this species from occupying the project site. One CNDDB occurrence is approximately 5 miles from the project site.
Salvadora hexalepis virgultea Coast patch-nosed snake	--	SSC	N/A	Found in semi-arid brush areas, canyons, rocky hillsides, and plains from the northern Carrizo Plains through the California coastal zone into coastal northern Baja California.	**None.** Suitable brush area, canyon, and plain habitat is absent from the project site. No CNDDB occurrences occur within 5 miles of the project site.
Thamnophis hammondii Two-striped gartersnake	--	SSC	N/A	Associated with permanent or semi-permanent bodies of water from the southeastern slope of the Diablo Range and the Salinas Valley south along the South Coast and Transverse ranges to the Mexican border, and on Santa Catalina Island. Seeks out holes (mammal burrows, crevices, surface objects) and basks on streamside rocks or densely vegetated stream banks.	**None.** Suitable aquatic habitat is absent from the project site. Aquatic habitat is also absent from the area immediately surrounding the project site. One CNDDB occurrence is approximately 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Birds					
Accipiter cooperii Cooper's hawk	--	WL	N/A	Breeds in extensive forests and smaller woodlots of deciduous, coniferous, and mixed pine-hardwoods, as well as in pine plantations, in both suburban and urban habitats.	**Present.** This species was observed flying overhead during the biological survey. The project site may be used for foraging and the trees located directly south and east of the project site provide suitable perching and nesting habitat. No CNDDB records occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 0.75 miles east of the project site.
Agelaius tricolor Tricolored blackbird	--	CC/SSC	N/A	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**None.** Suitable open water and desired nesting substrate habitat is absent from the project site. One CNDDB occurrence is approximately 5 miles from the project site. The nearest e-bird sighting was documented approximately 1.5 miles from the project site.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	--	WL	N/A	Found on moderate to steep, dry, rocky slopes. Prefers low cover of scattered shrubs with patches of grasses, forbs and bare ground. Nests on the ground in hollow rocks or under clumps of grass or low bushes. Prefers coastal sage scrub, coastal bluff scrub, chaparral.	**None.** Suitable sage, scrub, chaparral and rocky slope habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings recorded near the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Ammodramus savannarum Grasshopper sparrow	--	SSC	N/A	Prefers moderately open grasslands with shrub cover and no trees. Nests on the ground at the base of weed, shrub or clump of grass.	**None.** Suitable open grassland habitat lacking trees is absent from the project site. No CNDDB records occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 1.5 miles from the project site.
Aquila chrysaetos Golden eagle	--	FP	N/A	Typically inhabits rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, rock outcrops, sage-juniper flats, desert. Seeks cover on secluded cliffs with overhanging ledges and large trees. Nests on cliffs and in large trees near open areas.	**None.** Suitable foothills, mountain terrain, plateau, rocky outcrop, sage-juniper flats, and desert habitat is absent from the project site. No CNDDB occurrences occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 0.75 miles from the project site.
Asio otus Long-eared owl	--	SSC	N/A	Requires riparian habitat. Also uses live oak thickets and other dense strands of trees. Hunts in open areas.	**None.** Suitable riparian habitat and dense strands of trees are absent from the project area. No CNDDB occurrences occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 1.5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Athene cunicularia Burrowing owl	--	SSC	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Not Expected**. Marginal nest burrow habitat exists underneath trailers and Conex boxes (shipping containers) and in open-ended pipes on the ground within the project site. Marginal foraging habitat exists in open areas within the project site. The presence of trees around the project site, however, increases the likelihood of predation on burrowing owls (due to larger raptors preying upon them), and further decreases their potential to occur. No CNDDB occurrences occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 4.5 miles from the project site.
Buteo swainsoni Swainson's hawk	--	CT	N/A	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**None.** Suitable grassland and agricultural habitat is absent at the project site. The row crops in the project site do not provide adequate foraging opportunities for this species due to their small size. Additionally, the surrounding freeways and roadways would deter this species from entering the project site. No CNDDB records occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 1.3 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Campylorhynchus brunneicapillus sandiegensis Coastal cactus wren	--	SSC	N/A	Requires native scrub vegetation with mature cholla or prickly-pear. Cactus patches for nesting.	**None.** Suitable scrub and cactus habitat is absent at the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FE	CE	N/A	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**None.** Suitable riparian habitat is absent at the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.
Cotrurnicops noveboracensis Yellow rail	--	SSC	N/A	Grassy marshes, meadows. Typically, in fresh or brackish marsh with water no more than a foot deep. In winter, mostly coastal salt marsh, rice fields, damp meadows.	**None.** Suitable marsh and meadow habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.
Cypseloides niger Black swift	--	SSC	N/A	Nests in moist crevices or caves on sea cliffs above the surf, or on cliffs behind or adjacent to, waterfalls in deep canyons.	**None.** Suitable crevice, cave, cliff, or waterfall habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 3.5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Elanus leucurus White-tailed kite	--	FP	N/A	Coastal and valley lowlands, agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California. Forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. Uses trees with dense canopies for cover. Also roosts in saltgrass and Bermudagrass in Southern California.	**Not Expected.** Marginal foraging habitat exists within the agricultural and open areas of the project site. This species would not be expected to utilize the trees adjacent to the project site for nesting due to the nearby roadways, freeways, commercial and residential properties. No CNDDB records occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 0.75 miles from the project site.
Empidonax traillii extimus Southwestern willow flycatcher	FE	CE	N/A	Prefers moist shrubby areas, thickets of willows near streams, canyon bottoms, mountainside seepages, margins of lakes and ponds, riparian woodlands.	**None.** Suitable riparian habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. The nearest e-bird sighting was documented approximately 7.3 miles from the project site.
Eremophila alpestris actia California horned lark	--	WL	N/A	Grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above treeline, sparse vegetation.	**None.** Suitable grassland or desert habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.
Falco columbarius Merlin	--	WL	N/A	Frequents coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages. Ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitats.	**None.** Suitable coastline, grassland, savannah, woodland, lake, wetland, or edge habitat is absent from the project site. Species does not breed in California. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Icteria virens Yellow-breasted chat	--	SSC	N/A	Inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	**None.** Suitable riparian and brushy tangle habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.
Laterallus jamaicensis coturniculus California black rail	--	CT	N/A	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**None.** Suitable marsh and meadow habitat is absent from the project site. One CNDDB occurrence is approximately 2.5-5 miles from the project site (exact location unknown). No e-bird sightings have been recorded near the project site.
Polioptila californica californica Coastal California gnatcatcher	FT	SSC	N/A	Obligate, permanent resident of coastal sage scrub below 2,500 feet in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**Not Expected.** Suitable coastal sage scrub habitat is absent from the project site; however, numerous CNDDB occurrences have been recorded within 5 miles to the north, west, and southwest of the project site. Additionally, Critical Habitat for this species is located approximately 0.4 north of the project site. Critical Habitat is separated from the project site by Interstate 10, surface streets, and an agricultural lot. This species would only be expected to be observed while traversing from the SEA units north and northeast of the project site (Units 3 and 4) to the SEA unit south of the project site (Unit 5). No e-bird sightings have been recorded near the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Riparia riparia bank swallow	--	CT	N/A	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**None.** Suitable riparian, cliff, and other vertical bank habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site. No e-bird sightings have been recorded near the project site.
Setophaga petechia Yellow warbler	--	SSC	N/A	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	**None.** Suitable riparian and montane shrubbery habitats are absent from the project site. One CNDDB occurrence is approximately 3.8 miles southwest of the project site. The nearest e-bird sighting was documented approximately 1 mile from the project site.
Vireo bellii pusillus Least Bell's vireo	FE	CE	N/A	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, mesquite.	**None.** Suitable riparian habitat is absent from the project site. Three CNDDB occurrences are approximately 3.5 and 4 miles from the project site. The nearest e-bird sighting was documented approximately 1.5 miles from the project site.
Mammals					
Antrozous pallidus pallid bat	--	SSC, WBWG: High	N/A	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Can roost in various human structures such as bridges, barns, porches, bat boxes, and human-occupied and/or vacant buildings. Prefers rocky	**Possible.** Suitable foraging habitat is present at the project site; roosting habitat exists in the existing vacant structures. Two CNDDB occurrences are approximately 3.2 miles and 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
				outcrops, cliffs, and crevices with access to open habitats for foraging. Very sensitive to disturbance of roosting sites.	
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	--	SSC	N/A	Occurs in coastal sage scrub, sage scrub/grassland ecotones, chaparral, desert scrubs.	**None.** Suitable sage scrub, grassland, chaparral or desert scrub habitats are absent at the project site, which is surrounded by freeways, surface streets, and developed areas that serve as barriers to the species. No CNDDB occurrences occur within 5 miles of the project site.
Dipodomys merriami parvus San Bernardino kangaroo rat	FE	SSC	N/A	Occurs primarily in alluvial fan sage scrub near rivers and floodplains of southern San Bernardino County.	**None.** Suitable sage scrub habitat is absent from the project site, which is surrounded by freeways, surface streets, and developed areas that serve as barriers to the species. No CNDDB occurrences occur within 5 miles of the project site.
Eumops perotis californicus western mastiff bat	--	SSC, WBWG: High	N/A	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Possible.** Suitable foraging habitat is present at the project site; roosting habitat exists in the existing vacant structures. Two CNDDB occurrences are approximately 3 miles from the project site, one is approximately 3.5 miles from the project site, and another is 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Lasiurus xanthinus Western yellow bat	--	SSC, WBWG: High	N/A	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	**Possible.** Suitable foraging habitat is present at the project site; marginal suitable roosting habitat exists in the existing vacant structures. One CNDDB occurrence is approximately 2.5 miles from the project site (exact location unknown).
Lepus californicus bennettii San Diego black-tailed jackrabbit	--	SSC	N/A	Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges. Coastal sage scrub habitats in Southern California.	**None.** Suitable shrub, scrub and herbaceous habitat is absent from the project site, which is surrounded by freeways, surface streets, and developed areas that serve as barriers to the species. No CNDDB records occur within 5 miles of the project site.
Neotoma lepida intermedia San Diego desert woodrat	--	SSC	N/A	Typically occupies rocky outcrops, cactus patches, dense undergrowth in sage scrub and chaparral habitats.	**None.** Suitable rocky outcrops, cactus patches, sage scrub, or chaparral habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Nyctinomops femorosaccus Pocketed free-tailed bat	--	SSC, WBWG: Moderate	N/A	Occurs in a variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, and buildings. Roosts in rocky areas with high cliffs and in roof tiles.	**Not Expected.** Marginal foraging habitat is present at the project site; marginal roosting habitat exists in the existing vacant structures. One CNDDB occurrence is approximately 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Nyctinomops macrotis Big free-tailed bat	--	SSC, WBWG: Moderate	N/A	Inhabits rugged, rocky habitats in arid landscapes. Found in desert shrub, woodlands, evergreen forests. Typically roost in high cliffs or rocky outcrops but occasionally will roost in buildings.	**Not Expected.** Marginal foraging habitat is present at the project site; marginal roosting habitat exists in the existing vacant structures. One CNDDB occurrence is approximately 2.5 miles from the project site (exact location unknown).
Ovis canadensis nelsoni Desert bighorn sheep	--	FP	N/A	Occur in desert mountain ranges from White Mountains of Mono and Inyo counties, south to San Bernardino Mountains and southeastward to Mexican border. Isolated population in San Gabriel Mountains. Habitat includes alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, montane riparian.	**None.** Suitable shrub, sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, or montane riparian habitat is absent from the project site, which is surrounded by freeways, surface streets, and developed areas that serve as barriers to the species. No CNDDB records occur within 5 miles of the project site.
Taxidea taxus American badger	--	SSC	N/A	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient prey (fossorial rodents) source, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**None**. Suitable open habitat is absent from the project site, which is surrounded by freeways, surface streets, and developed areas that serve as barriers to the species. One CNDDB- occurrence is approximately 5 miles from the project site.

Species	Habitat			Habitat	Potential for Occurrence in Vicinity of Project Site
	Fed	State	CRPR		
Catostomus santaanae Santa Ana sucker	FT	--	N/A	Inhabits small to medium sized streams that flow year round. Prefer cool, flowing water where gravel, rubble and boulder substrates are present. Found in parts of the Santa Ana, San Gabriel and Santa Clara rivers as well as their tributaries, including Big Tujunga Creek in Southern California.	**None.** Suitable aquatic habitat is absent from the project site. No CNDDB occurrences occur within 5 miles of the project site.
Gila orcutti Arroyo chub	--	SSC	N/A	Native to streams from Malibu Creek to San Luis Rey river basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Inhabits slow water stream sections with mud or sand bottoms.	**None.** Suitable aquatic habitat is absent from the project site. One CNDDB occurrence is approximately 3 miles from the project site.
Oncorhynchus mykiss irideus pop. 10 steelhead -southern California coast DPS	FE	--	N/A	Watersheds with clean, stable spawning gravels, rivers, estuaries, ocean.	**None.** Suitable aquatic habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.
Rhinichthys osculus ssp. [3] Santa Ana speckled dace	--	SSC	N/A	Found in perennial streams fed by cool springs that maintain summer water temperatures below 20 degrees Celsius. Occupy shallow riffles dominated by gravel and cobble.	**None.** Suitable aquatic habitat is absent from the project site. No CNDDB records occur within 5 miles of the project site.

U.S. Fish and Wildlife Service (USFWS) Federal Listing Categories:

FE	Federally Listed as Endangered
FT	Federally listed as Threatened
--	No Listing

California Department of Fish and Wildlife (CDFW) State Listing Categories:

CE	State listed as Endangered
CT	State listed as Threatened
CR	State listed as Rare
SSC	California Species of Special Concern
FP	Fully Protected Species
CC	State Candidate for Listing
WL	California Watch List
WBWG	Western Bat Working Group (ranked as “High” or “Moderate” priority species)
--	No Listing

California Native Plant Society (CNPS) Listing Categories

1A	Presumed extirpated or extinct in California
1B.1	Rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2	Rare, threatened, or endangered in California and elsewhere;fairly threatened in California
2B.1	Rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
2B.2	Rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
2B.3	Rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California
3.2	Plants about which we need more information, fairly threatened in California
3.3	Plants about which we need more information, not very threatened in California
4.2	Plants of limited distribution; fairly threatened in California

Special-status Species Potential to Occur Criteria

None	Indicates that the area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.
Not Expected	Indicates situations where suitable habitat or key habitat elements may be present but may be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities, microhabitats, and degraded/substantially altered habitats.
Possible	Indicates the presence of suitable habitat or key habitat elements that potentially support the species.
Present	Indicates that either the target species was observed directly or its presence was confirmed by diagnostic signs during field investigations or in previous studies in the area.

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CNDDB Query Results

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (La Habra (3311788) OR Glendora (3411727) OR Ontario (3411716) OR Baldwin Park (3411718) OR San Dimas (3411717) OR Mt. Baldy (3411726) OR Azusa (3411728) OR Yorba Linda (3311787) OR Prado Dam (3311786))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Abronia villosa var. aurita	chaparral sand-verbena	Dicots	PDNYC010P1	98	1	None	None	G5T2?	S2	1B.1	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Coastal scrub, Desert dunes
Accipiter cooperii	Cooper's hawk	Birds	ABNKC12040	116	2	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	951	4	None	Candidate Endangered	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	Birds	ABPBX91091	227	6	None	None	G5T3	S3	null	CDFW_WL-Watch List	Chaparral, Coastal scrub
Ammodramus savannarum	grasshopper sparrow	Birds	ABPBXA0020	26	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Valley & foothill grassland
Anaxyrus californicus	arroyo toad	Amphibians	AAABB01230	139	1	Endangered	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Desert wash, Riparian scrub, Riparian woodland, South coast flowing waters, South coast standing waters
Anniella stebbinsi	southern California legless lizard	Reptiles	ARACC01060	208	7	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Coastal dunes, Coastal scrub
Antrozous pallidus	pallid bat	Mammals	AMACC10010	416	5	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Aquila chrysaetos	golden eagle	Birds	ABNKC22010	321	3	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub,

											Birds of Conservation Concern	Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland
Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	Dicots	PDERI042P0	35	3	None	None	G5T3	S3	1B.2	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral
Arizona elegans occidentalis	California glossy snake	Reptiles	ARADB01017	260	3	None	None	G5T2	S2	null	CDFW_SSC-Species of Special Concern	null
Asio otus	long-eared owl	Birds	ABNSB13010	46	1	None	None	G5	S3?	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Cismontane woodland, Great Basin scrub, Riparian forest, Riparian woodland, Upper montane coniferous forest
Aspidoscelis hyperythra	orange-throated whiptail	Reptiles	ARACJ02060	362	2	None	None	G5	S2S3	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	ARACJ02143	136	4	None	None	G5T5	S3	null	CDFW_SSC-Species of Special Concern	null
Astragalus brauntonii	Braunton's milk-vetch	Dicots	PDFAB0F1G0	44	2	Endangered	None	G2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Coastal scrub, Limestone, Valley & foothill grassland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	1974	15	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Atriplex coulteri	Coulter's saltbush	Dicots	PDCHE040E0	99	1	None	None	G3	S1S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley & foothill grassland
Atriplex parishii	Parish's brittlescale	Dicots	PDCHE041D0	15	1	None	None	G1G2	S1	1B.1	USFS_S-Sensitive	Alkali playa, Chenopod scrub, Meadow & seep, Vernal pool, Wetland
Batrachoseps gabrieli	San Gabriel slender salamander	Amphibians	AAAAD02110	8	3	None	None	G2G3	S2S3	null	IUCN_DD-Data Deficient, USFS_S-Sensitive	Talus slope
Berberis nevinii	Nevin's barberry	Dicots	PDBER060A0	32	4	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub
Bombus crotchii	Crotch bumble bee	Insects	IIHYM24480	234	9	None	None	G3G4	S1S2	null	null	null
Brodiaea filifolia	thread-leaved brodiaea	Monocots	PMLIL0C050	134	6	Threatened	Endangered	G2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2467	2	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland

California Walnut Woodland	California Walnut Woodland	Woodland	CTT71210CA	76	30	None	None	G2	S2.1	null	null	Cismontane woodland
Callophrys mossii hidakupa	San Gabriel Mountains elfin butterfly	Insects	IILEPE2206	3	3	None	None	G4T1T2	S1S2	null	USFS_S-Sensitive	Lower montane coniferous forest
Calochortus clavatus var. gracilis	slender mariposa-lily	Monocots	PMLIL0D096	116	13	None	None	G4T2T3	S2S3	1B.2	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Calochortus plummerae	Plummer's mariposa-lily	Monocots	PMLIL0D150	230	35	None	None	G4	S4	4.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley & foothill grassland
Calochortus weedii var. intermedius	intermediate mariposa-lily	Monocots	PMLIL0D1J1	140	15	None	None	G3G4T2	S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Calystegia felix	lucky morning-glory	Dicots	PDCON040P0	10	6	None	None	G1Q	S1	1B.1	null	Meadow & seep, Riparian scrub
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	Birds	ABPBG02095	154	7	None	None	G5T3Q	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Coastal scrub
Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	Riparian	CTT61350CA	50	35	None	None	G3	S3.3	null	null	Riparian forest
Castilleja gleasoni	Mt. Gleason paintbrush	Dicots	PDSCR0D140	33	2	None	Rare	G2	S2	1B.2	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Pinon & juniper woodlands
Catostomus santaanae	Santa Ana sucker	Fish	AFCJC02190	28	6	Threatened	None	G1	S1	null	AFS_TH-Threatened, IUCN_VU-Vulnerable	Aquatic, South coast flowing waters
Centromadia parryi ssp. australis	southern tarplant	Dicots	PDAST4R0P4	87	1	None	None	G3T2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Marsh & swamp, Salt marsh, Valley & foothill grassland, Vernal pool, Wetland
Centromadia pungens ssp. laevis	smooth tarplant	Dicots	PDAST4R0R4	126	1	None	None	G3G4T2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa, Chenopod scrub, Meadow & seep, Riparian woodland, Valley & foothill grassland, Wetland
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	Mammals	AMAFD05031	99	3	None	None	G5T3T4	S3S4	null	CDFW_SSC-Species of Special Concern	Chaparral, Coastal scrub
Chorizanthe parryi var. parryi	Parry's spineflower	Dicots	PDPGN040J2	150	3	None	None	G3T2	S2	1B.1	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Cladium californicum	California saw-grass	Monocots	PMCYP04010	13	2	None	None	G4	S2	2B.2	USFS_S-Sensitive	Alkali marsh, Freshwater marsh, Meadow & seep, Wetland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	155	4	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Riparian forest
Coturnicops noveboracensis	yellow rail	Birds	ABNME01010	45	1	None	None	G4	S1S2	null	CDFW_SSC-Species of Special Concern,	Freshwater marsh, Meadow & seep

											IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	
Crotalus ruber	red-diamond rattlesnake	Reptiles	ARADE02090	190	4	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Chaparral, Mojavean desert scrub, Sonoran desert scrub
Cypseloides niger	black swift	Birds	ABNUA01010	46	1	None	None	G4	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_YWL-Yellow Watch List, USFWS_BCC-Birds of Conservation Concern	null
Diplectrona californica	California diplectronan caddisfly	Insects	IITRI23010	1	1	None	None	G1G2	S1S2	null	null	Aquatic
Dipodomys merriami parvus	San Bernardino kangaroo rat	Mammals	AMAFD03143	82	1	Endangered	None	G5T1	S1	null	CDFW_SSC-Species of Special Concern	Coastal scrub
Dodecahema leptoceras	slender-horned spineflower	Dicots	PDPGN0V010	38	2	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub
Dudleya cymosa ssp. crebrifolia	San Gabriel River dudleya	Dicots	PDCRA040A8	6	5	None	None	G5T2	S2	1B.2	USFS_S-Sensitive	Chaparral
Dudleya densiflora	San Gabriel Mountains dudleya	Dicots	PDCRA040B0	9	8	None	None	G2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian forest
Dudleya multicaulis	many-stemmed dudleya	Dicots	PDCRA040H0	154	19	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	178	3	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Empidonax traillii extimus	southwestern willow flycatcher	Birds	ABPAE33043	70	2	Endangered	Endangered	G5T2	S1	null	NABCI_RWL-Red Watch List	Riparian woodland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1353	14	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Ensatina eschscholtzii klauberi	large-blotched salamander	Amphibians	AAAAD04013	12	1	None	None	G5T2?	S3	null	CDFW_WL-Watch List, USFS_S-Sensitive	null
Eremophila alpestris actia	California horned lark	Birds	ABPAT02011	94	1	None	None	G5T4Q	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Marine intertidal & splash zone

												communities, Meadow & seep
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Dicots	PDPLM03035	31	1	Endangered	Endangered	G4T1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral, Coastal scrub
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	8	None	None	G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, WBWG_H-High Priority	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Falco columbarius	merlin	Birds	ABNKD06030	36	1	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Estuary, Great Basin grassland, Valley & foothill grassland
Fimbristylis thermalis	hot springs fimbristylis	Monocots	PMCYP0B0N0	19	1	None	None	G4	S1S2	2B.2	null	Meadow & seep, Wetland
Galium grande	San Gabriel bedstraw	Dicots	PDRUB0N0V0	9	6	None	None	G1	S1	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest
Gila orcuttii	arroyo chub	Fish	AFCJB13120	49	6	None	None	G2	S2	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, South coast flowing waters
Horkelia cuneata var. puberula	mesa horkelia	Dicots	PDROS0W045	103	9	None	None	G4T1	S1	1B.1	USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub
Icteria virens	yellow-breasted chat	Birds	ABPBX24010	97	8	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Imperata brevifolia	California satintail	Monocots	PMPOA3D020	32	2	None	None	G4	S3	2B.1	SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Meadow & seep, Mojavean desert scrub, Riparian scrub, Wetland
Lasiurus cinereus	hoary bat	Mammals	AMACC05030	238	6	None	None	G5	S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
Lasiurus xanthinus	western yellow bat	Mammals	AMACC05070	58	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Desert wash
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	PDAST5L0A1	97	1	None	None	G4T2	S2	1B.1	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa, Marsh & swamp, Salt marsh, Vernal pool, Wetland
Laterallus jamaicensis coturniculus	California black rail	Birds	ABNME03041	303	1	None	Threatened	G3G4T1	S1	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Brackish marsh, Freshwater marsh, Marsh & swamp, Salt marsh, Wetland
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Dicots	PDBRA1M114	142	13	None	None	G5T3	S3	4.3	null	Chaparral, Coastal scrub
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Mammals	AMAEB03051	103	1	None	None	G5T3T4	S3S4	null	CDFW_SSC-Species of Special Concern	Coastal scrub
Lilium parryi	lemon lily	Monocots	PMLIL1A0J0	160	1	None	None	G3	S3	1B.2	SB_RSABG-Rancho Santa Ana	Lower montane coniferous

											Botanic Garden, USFS_S-Sensitive	forest, Meadow & seep, Riparian forest, Upper montane coniferous forest, Wetland
Linanthus concinnus	San Gabriel linanthus	Dicots	PDPLM090D0	43	1	None	None	G2	S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest
Lithobates pipiens	northern leopard frog	Amphibians	AAABH01170	22	1	None	None	G5	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Freshwater marsh, Great Basin flowing waters, Great Basin standing waters, Marsh & swamp, Wetland
Monardella australis ssp. jokerstii	Jokerst's monardella	Dicots	PDLAM18112	3	1	None	None	G4T1	S1	1B.1	USFS_S-Sensitive	Chaparral, Lower montane coniferous forest
Monardella macrantha ssp. hallii	Hall's monardella	Dicots	PDLAM180E1	41	4	None	None	G5T3	S3	1B.3	SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland
Muhlenbergia californica	California muhly	Monocots	PMPOA480A0	5	1	None	None	G4	S4	4.3	null	Chaparral, Coastal scrub, Lower montane coniferous forest, Meadow & seep
Myotis yumanensis	Yuma myotis	Mammals	AMACC01020	265	2	None	None	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_LM-Low-Medium Priority	Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest
Navarretia prostrata	prostrate vernal pool navarretia	Dicots	PDPLM0C0Q0	60	1	None	None	G2	S2	1B.1	null	Coastal scrub, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	AMAFF08041	118	3	None	None	G5T3T4	S3S4	null	CDFW_SSC-Species of Special Concern	Coastal scrub
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	AMACD04010	90	2	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_M-Medium Priority	Joshua tree woodland, Pinon & juniper woodlands, Riparian scrub, Sonoran desert scrub
Nyctinomops macrotis	big free-tailed bat	Mammals	AMACD04020	32	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_MH-Medium-High Priority	null
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Fish	AFCHA0209J	19	1	Endangered	None	G5T1Q	S1	null	AFS_EN-Endangered	Aquatic, South coast flowing waters
Oreonana vestita	woolly mountain-parsley	Dicots	PDAPI1G030	40	2	None	None	G3	S3	1B.3	SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest
Orobanche valida ssp. valida	Rock Creek broomrape	Dicots	PDORO040G2	12	3	None	None	G4T2	S2	1B.2	USFS_S-Sensitive	Chaparral, Pinon & juniper woodlands
Ovis canadensis nelsoni		Mammals	AMALE04013	46	2	None	None	G4T4	S3	null	BLM_S-Sensitive, CDFW_FP-Fully	Alpine, Alpine dwarf scrub,

	desert bighorn sheep										Protected, USFS_S-Sensitive	Chaparral, Chenopod scrub, Great Basin scrub, Mojavean desert scrub, Montane dwarf scrub, Pinon & juniper woodlands, Riparian woodland, Sonoran desert scrub
Phacelia stellaris	Brand's star phacelia	Dicots	PDHYD0C510	15	1	None	None	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal dunes, Coastal scrub
Phrynosoma blainvillii	coast horned lizard	Reptiles	ARACF12100	775	9	None	None	G3G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland
Polioptila californica californica	coastal California gnatcatcher	Birds	ABPBJ08081	830	43	Threatened	None	G4G5T2Q	S2	null	CDFW_SSC-Species of Special Concern, NABCI_YWL-Yellow Watch List	Coastal bluff scrub, Coastal scrub
Pseudognaphalium leucocephalum	white rabbit-tobacco	Dicots	PDAST440C0	62	3	None	None	G4	S2	2B.2	null	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	2353	6	None	Candidate Threatened	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rana muscosa	southern mountain yellow-legged frog	Amphibians	AAABH01330	186	6	Endangered	Endangered	G1	S1	null	CDFW_WL-Watch List, IUCN_EN-Endangered, USFS_S-Sensitive	Aquatic
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	Fish	AFCJB3705K	13	4	None	None	G5T1	S1	null	AFS_TH-Threatened, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, South coast flowing waters
Riparia riparia	bank swallow	Birds	ABPAU08010	298	1	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	Scrub	CTT32720CA	30	7	None	None	G1	S1.1	null	null	Coastal scrub
Salvadora hexalepis virgultea	coast patch-nosed snake	Reptiles	ARADB30033	34	1	None	None	G5T4	S2S3	null	CDFW_SSC-Species of Special Concern	Coastal scrub
Senecio aphanactis	chaparral ragwort	Dicots	PDAST8H060	82	2	None	None	G3	S2	2B.2	null	Chaparral, Cismontane woodland, Coastal scrub
Setophaga petechia	yellow warbler	Birds	ABPBX03010	72	8	None	None	G5	S3S4	null	CDFW_SSC-Species of Special Concern, USFWS_BCC-Birds of	Riparian forest, Riparian scrub, Riparian woodland

											Conservation Concern	
Sidalcea neomexicana	salt spring checkerbloom	Dicots	PDMAL110J0	30	3	None	None	G4	S2	2B.2	USFS_S-Sensitive	Alkali playa, Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Wetland
Southern California Arroyo Chub/Santa Ana Sucker Stream	Southern California Arroyo Chub/Santa Ana Sucker Stream	Inland Waters	CARE2330CA	4	3	None	None	GNR	SNR	null	null	null
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	CTT61310CA	246	18	None	None	G4	S4	null	null	Riparian forest
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	Riparian	CTT61330CA	111	3	None	None	G3	S3.2	null	null	Riparian forest
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	CTT62400CA	230	26	None	None	G4	S4	null	null	Riparian woodland
Southern Willow Scrub	Southern Willow Scrub	Riparian	CTT63320CA	45	1	None	None	G3	S2.1	null	null	Riparian scrub
Spea hammondii	western spadefoot	Amphibians	AAABF02020	465	1	None	None	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Symphyotrichum defoliatum	San Bernardino aster	Dicots	PDASTE80C0	102	6	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Valley & foothill grassland
Symphyotrichum greatae	Greata's aster	Dicots	PDASTE80U0	56	13	None	None	G2	S2	1B.3	BLM_S-Sensitive	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland
Taricha torosa	Coast Range newt	Amphibians	AAAAF02032	87	16	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern	null
Taxidea taxus	American badger	Mammals	AMAJF04010	559	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin

												scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Thamnophis hammondii	two-striped gartersnake	Reptiles	ARADB36160	177	11	None	None	G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Marsh & swamp, Riparian scrub, Riparian woodland, Wetland
Thelypteris puberula var. sonorensis	Sonoran maiden fern	Ferns	PPTHE05192	27	6	None	None	G5T3	S2	2B.2	USFS_S-Sensitive	Meadow & seep, Wetland
Thysanocarpus rigidus	rigid fringepod	Dicots	PDBRA2Q070	5	1	None	None	G1G2	S1	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Pinon & juniper woodlands
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	493	31	Endangered	Endangered	G5T2	S2	null	IUCN_NT-Near Threatened, NABCI_YWL-Yellow Watch List	Riparian forest, Riparian scrub, Riparian woodland
Walnut Forest	Walnut Forest	Forest	CTT81600CA	6	3	None	None	G1	S1.1	null	null	Broadleaved upland forest

CNPS Rare and Endangered Plant Inventory

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

63 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3411718, 3411717, 3311788, 3411728, 3411727, 3411726, 3311786 3311787 and 3411716;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Acanthoscyphus parishii var. parishii	Parish's oxytheca	Polygonaceae	annual herb	Jun-Sep	4.2	S3S4	G4? T3T4
Amaranthus watsonii	Watson's amaranth	Amaranthaceae	annual herb	Apr-Sep	4.3	S3	G5?
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	Mar-Jun	4.2	S3S4	G5? T3T4
Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	Ericaceae	perennial evergreen shrub	Mar	1B.2	S3	G5T3
Asplenium vespertinum	western spleenwort	Aspleniaceae	perennial rhizomatous herb	Feb-Jun	4.2	S4	G4
Astragalus bicristatus	crested milk-vetch	Fabaceae	perennial herb	May-Aug	4.3	S3	G3
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	perennial herb	Jan-Aug	1B.1	S2	G2
Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	perennial herb	Mar-Oct	1B.2	S1S2	G3
Atriplex serenana var. davidsonii	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S1	G5T1
Berberis nevinii	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	1B.1	S1	G1
Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S2	G2
Calochortus catalinae	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar-Jun	4.2	S3S4	G3G4
Calochortus clavatus var. gracilis	slender mariposa lily	Liliaceae	perennial bulbiferous herb	Mar-Jun (Nov)	1B.2	S2S3	G4T2T3
Calochortus plummerae	Plummer's mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	4.2	S4	G4
Calochortus weedii var. intermedius	intermediate mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G3G4T2

Calystegia felix	lucky morning-glory	Convolvulaceae	annual rhizomatous herb	Mar-Sep	1B.1	S1	G1Q
Camissoniopsis lewisii	Lewis' evening-primrose	Onagraceae	annual herb	Mar-May (Jun)	3	S4	G4
Castilleja gleasoni	Mt. Gleason paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	May-Jun (Sep)	1B.2	S2	G2
Centromadia parryi ssp. australis	southern tarplant	Asteraceae	annual herb	May-Nov	1B.1	S2	G3T2
Centromadia pungens ssp. laevis	smooth tarplant	Asteraceae	annual herb	Apr-Sep	1B.1	S2	G3G4T2
Chorizanthe leptotheca	Peninsular spineflower	Polygonaceae	annual herb	May-Aug	4.2	S3	G3
Chorizanthe parryi var. parryi	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S2	G3T2
Cladium californicum	California sawgrass	Cyperaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G4
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4
Deinandra paniculata	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov(Dec)	4.2	S4	G4
Dodecahema leptoceras	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1
Dudleya cymosa ssp. crebrifolia	San Gabriel River dudleya	Crassulaceae	perennial herb	Apr-Jul	1B.2	S2	G5T2
Dudleya densiflora	San Gabriel Mountains dudleya	Crassulaceae	perennial herb	Mar-Jun	1B.1	S2	G2
Dudleya multicaulis	many-stemmed dudleya	Crassulaceae	perennial herb	Apr-Jul	1B.2	S2	G2
Fimbristylis thermalis	hot springs fimbristylis	Cyperaceae	perennial rhizomatous herb	Jul-Sep	2B.2	S1S2	G4
Galium angustifolium ssp. gabrielense	San Antonio Canyon bedstraw	Rubiaceae	perennial herb	Apr-Aug	4.3	S3	G5T3
Galium grande	San Gabriel bedstraw	Rubiaceae	perennial deciduous shrub	Jan-Jul	1B.2	S1	G1
Heuchera caespitosa	urn-flowered alumroot	Saxifragaceae	perennial rhizomatous herb	May-Aug	4.3	S3	G3
Horkelia cuneata var. puberula	mesa horkelia	Rosaceae	perennial herb	Feb-Jul (Sep)	1B.1	S1	G4T1
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
Juglans californica	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	4.2	S4	G4
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2
Lepechinia fragrans	fragrant pitcher sage	Lamiaceae	perennial shrub	Mar-Oct	4.2	S3	G3
		Brassicaceae	annual herb	Jan-Jul	4.3	S3	G5T3

Lepidium virginicum var. robinsonii	Robinson's pepper-grass						
Lilium humboldtii ssp. ocellatum	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul (Aug)	4.2	S4?	G4T4?
Lilium parryi	lemon lily	Liliaceae	perennial bulbiferous herb	Jul-Aug	1B.2	S3	G3
Linanthus concinnus	San Gabriel linanthus	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
Monardella australis ssp. jokerstii	Jokerst’s monardella	Lamiaceae	perennial rhizomatous herb	Jul-Sep	1B.1	S1	G4T1
Monardella macrantha ssp. hallii	Hall's monardella	Lamiaceae	perennial rhizomatous herb	Jun-Oct	1B.3	S3	G5T3
Monardella saxicola	rock monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.2	S3	G3
Muhlenbergia californica	California muhly	Poaceae	perennial rhizomatous herb	Jun-Sep	4.3	S4	G4
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2
Oreonana vestita	woolly mountain-parsley	Apiaceae	perennial herb	Mar-Sep	1B.3	S3	G3
Orobanche valida ssp. valida	Rock Creek broomrape	Orobanchaceae	perennial herb (parasitic)	May-Sep	1B.2	S2	G4T2
Phacelia hubbyi	Hubby's phacelia	Hydrophyllaceae	annual herb	Apr-Jul	4.2	S4	G4
Phacelia ramosissima var. austrolitoralis	south coast branching phacelia	Hydrophyllaceae	perennial herb	Mar-Aug	3.2	S3	G5?T3Q
Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	2B.2	S2	G4
Quercus durata var. gabrielensis	San Gabriel oak	Fagaceae	perennial evergreen shrub	Apr-May	4.2	S3	G4T3
Quercus engelmannii	Engelmann oak	Fagaceae	perennial deciduous tree	Mar-Jun	4.2	S3	G3
Romneya coulteri	Coulter's matilija poppy	Papaveraceae	perennial rhizomatous herb	Mar-Jul (Aug)	4.2	S4	G4
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr (May)	2B.2	S2	G3
Senecio astephanus	San Gabriel ragwort	Asteraceae	perennial herb	May-Jul	4.3	S3	G3
Sidalcea neomexicana	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	2B.2	S2	G4
Sidotheca caryophylloides	chickweed oxytheca	Polygonaceae	annual herb	Jul-Sep (Oct)	4.3	S4	G4
Symphyotrichum defoliatum	San Bernardino aster	Asteraceae	perennial rhizomatous herb	Jul-Nov (Dec)	1B.2	S2	G2
Symphyotrichum greatae	Greata's aster	Asteraceae	perennial rhizomatous herb	Jun-Oct	1B.3	S2	G2
Thelypteris puberula var. sonorensis	Sonoran maiden fern	Thelypteridaceae	perennial rhizomatous herb	Jan-Sep	2B.2	S2	G5T3

Thysanocarpus rigidus	rigid fringepod	Brassicaceae	annual herb	Feb-May	1B.2	S1	G1G2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 12 December 2018].

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rareplants@cnps.org

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Baldwin Park CHP Office

LOCATION

Los Angeles County, California

Local office

Carlsbad Fish And Wildlife Office

☎ (760) 431-9440
📠 (760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

USFWS IPAC Resource List

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

Coastal California Gnatcatcher Polioptila californica californica There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip:

enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15

Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (🟩)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (🟨)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

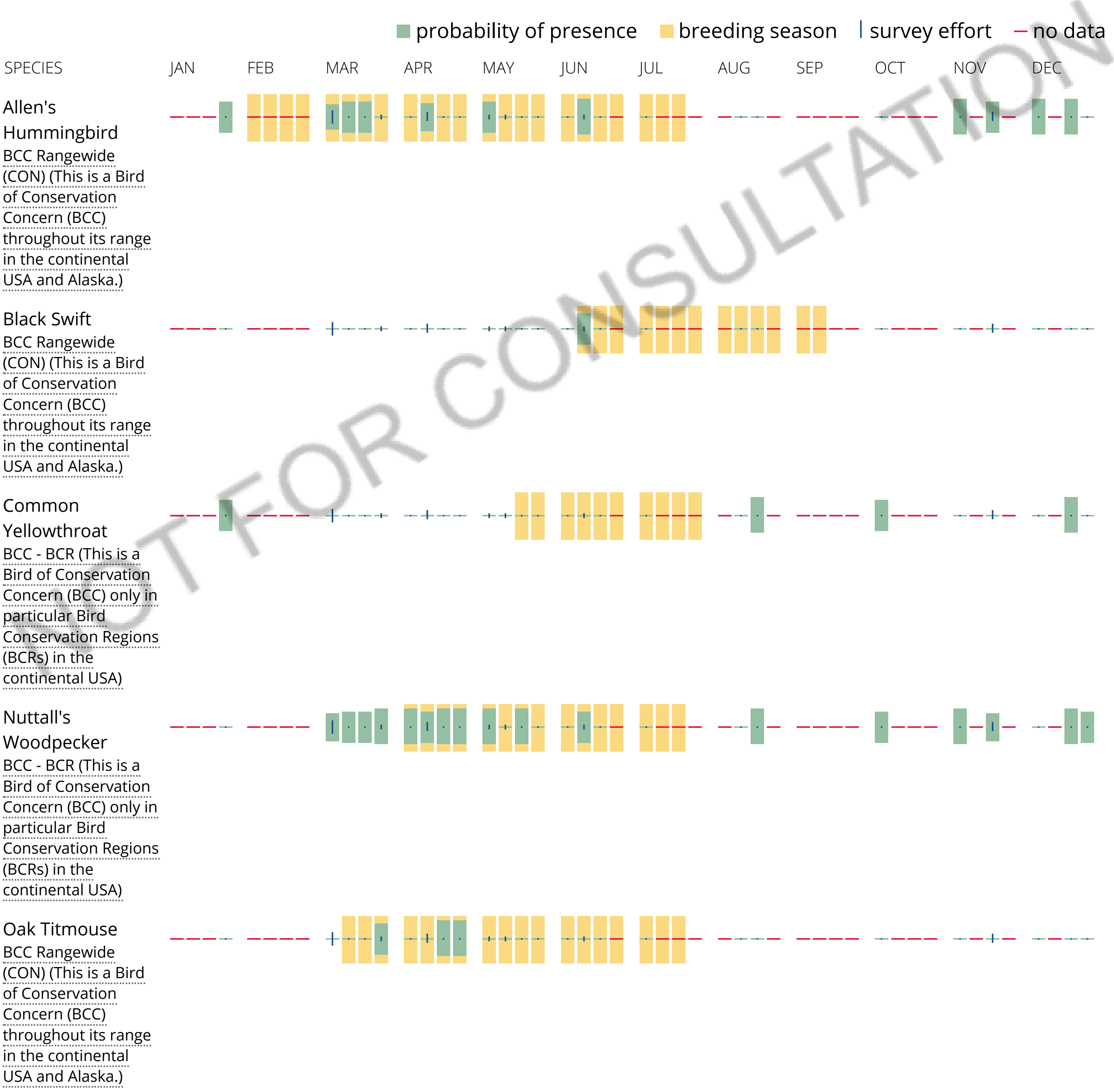
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Allen's Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

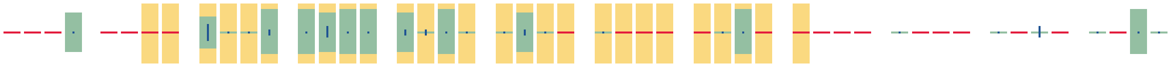
Black Swift
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

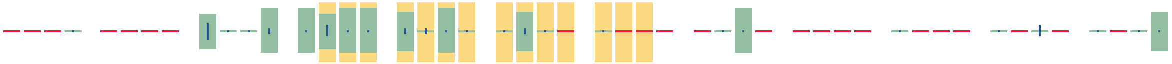
Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

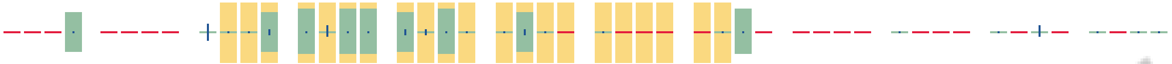
Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

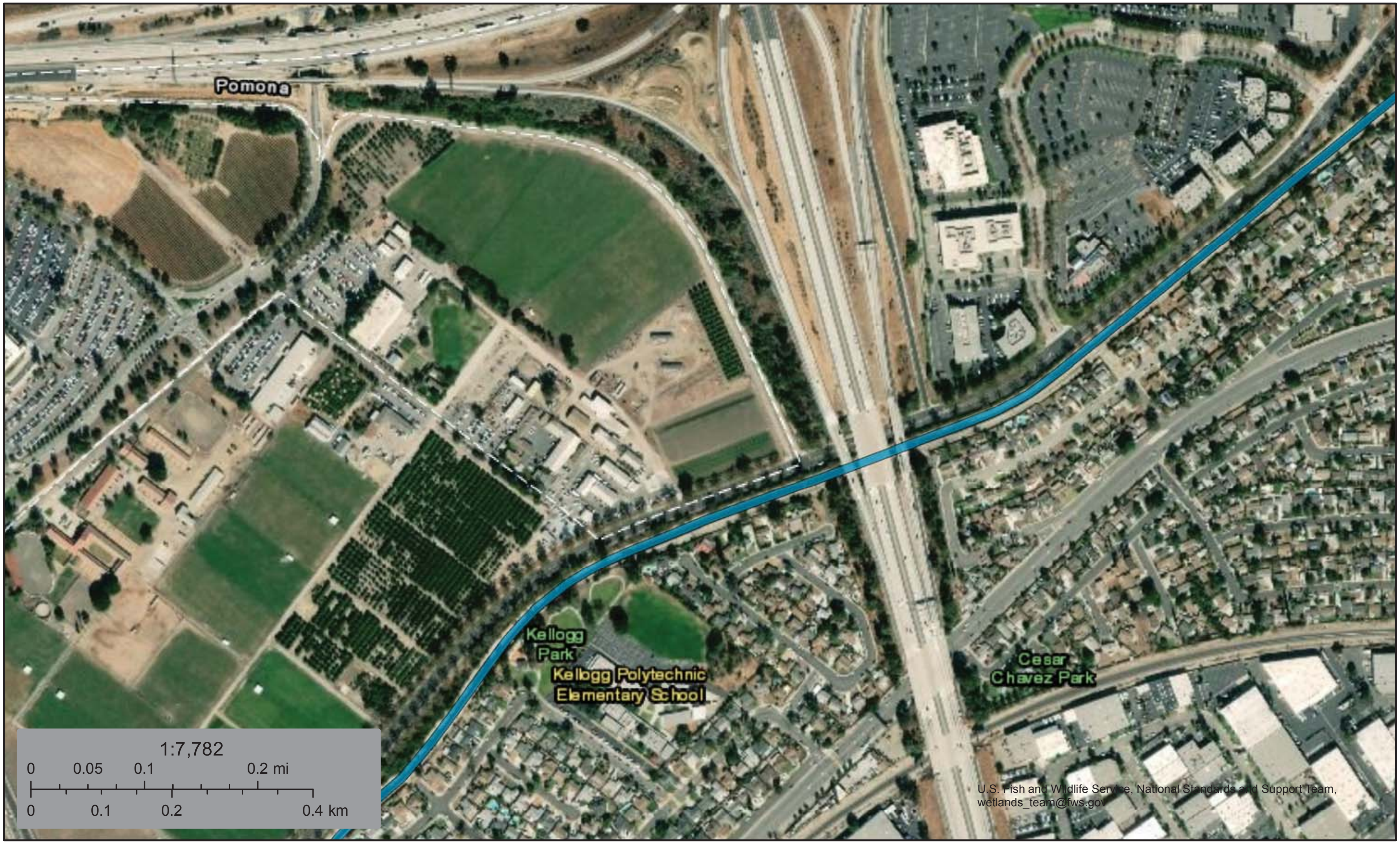
Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Proposed Baldwin Park Facility



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov

October 23, 2018

Wetlands

- 🟦 Estuarine and Marine Deepwater
- 🟦 Estuarine and Marine Wetland
- 🟩 Freshwater Emergent Wetland
- 🟩 Freshwater Forested/Shrub Wetland
- 🟦 Freshwater Pond
- 🟪 Lake
- 🟫 Other
- 🟦 Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix E

Cultural Resources Documentation

Technical Report

ARCHAEOLOGICAL INVENTORY REPORT

CHP Baldwin Park Area Office Replacement Project
Pomona, Los Angeles County, California

April 2019

Prepared for:

Ms. Jennifer Parson
California Department of General Services
707 3rd Street
West Sacramento, CA 95605

Prepared by:

Horizon
WATER and ENVIRONMENT

Horizon Water and Environment, LLC
P.O. Box 2727
Oakland, CA 94612
Janis Offermann, RPA
Cultural Resources Practice Lead

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Limitations

This report contains confidential cultural resources location information; report distribution should be restricted to those with a need to know. Cultural resources are non-renewable, and their scientific, cultural and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources should be kept confidential. The legal authority to restrict cultural resources information is in California Government Code 6254.1 and the National Historic Preservation Act of 1966, as amended, Section 304.

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Table of Contents

Figures

Tables

Appendices

List of Abbreviations and Acronyms

APE	area of potential effects
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CPP	California Polytechnic State University Pomona
CRHR	California Register of Historical Resources
DGS	California Department of General Services
Horizon	Horizon Water and Environment, LLC
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PRC	Public Resources Code
TCR	tribal cultural resource
RPA	Registered Professional Archaeologist

Executive Summary

The California Highway Patrol (CHP), with support from the California Department of General Services (DGS), is proposing to replace its existing Baldwin Park Area Office as part of a statewide effort to replace aging or inadequate CHP field offices and other facilities. The Baldwin Park Area Office Replacement Project (Proposed Project) will relocate the Baldwin Park Area Office on 14039 Francisquito Avenue in Baldwin Park, California, and replace it with new facilities that would provide adequate workspace, equipment storage, and vehicle parking for an increasing number of employees assigned to this office. The proposed new office would be located on a 6-acre parcel at the corner of at the northwest corner of South Campus Drive and East Campus Drive on land owned by California Polytechnic State University Pomona (CPP) in unincorporated Los Angeles County. CHP/DGS have retained Horizon Water and Environment, LLC (Horizon) to complete the cultural resources assessment in support of the Project.

This report documents cultural resources inventory methods and results as required for compliance with federal and California regulations. The study consisted of a literature review to identify any previously recorded cultural resources that could be affected by the Proposed Project, and a field survey to locate any archaeological sites that may exist but have not yet been recorded. No cultural resources were identified as the result of the literature search or pedestrian survey.

This report has been prepared based on certain key assumptions made by Horizon that substantially affect its conclusions and recommendations. These assumptions are that the information gathered during the record search is up to date and accurate, and that the field survey results accurately identified the presence or absence of archaeological resources visible on the ground surface. These assumptions, although thought to be reasonable and appropriate, may not prove to be true in the future. Horizon's conclusions and recommendations are conditioned upon these assumptions.

The archaeological inventory was performed based on information obtained at the South Central Coastal Information Center of the California Historical Resources Information System, as well as on direct observation of site conditions and other information generally applicable as of December 2018. The conclusions and recommendations herein are therefore based on information available up to that point in time. Further information may come to light in the future that could substantially change the conclusions found herein.

Information obtained from these sources in this timeframe is assumed to be correct and complete. Horizon does not assume any liability for findings or lack of findings based upon misrepresentation of information presented to Horizon or for items that are not visible, made visible, accessible, or present at the time of the project area inventory.

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1 Introduction

1.1 Location and Setting

The Proposed Project site is located on undeveloped land owned by California Polytechnic State University Pomona (CPP) in unincorporated Los Angeles County, directly west of and adjacent to the City of Pomona, California **(Figure 1)**. It is located at about 735 feet above mean sea level in the western Pomona Valley along the San Jose Fault, and sits on the southern edge of the San Jose Hills and north of the Puente Hills. The Proposed Project area is depicted on the San Dimas 7.5" U.S. Geological Survey topographic map in Section 27, Township 1 South, Range 9 West (**Figure 2**).

San Jose Wash, now an engineered channel, runs roughly parallel to and south of South Campus Drive. The Project site is underlain by Holocene to late Pleistocene alluvial fan deposits (California Geological Survey [CGS] 2012). This geologic unit consists of unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt deposits deposited within the San Jose Creek valley that largely reflect Tertiary marine sedimentary units and volcanic rocks exposed in the adjacent highland areas (California Division of Mines and Geology 1998; CGS 2012).

1.2 Project Description and Area of Potential Effects

The CHP is proposing to construct and operate a replacement CHP Area Office near the City of Pomona, Los Angeles County. The new facility, proposed to be located at the northwest corner of South Campus Drive and East Campus Drive on land owned by CPP, would replace the existing office at 14039 Francisquito Avenue in Baldwin Park, which is approximately 9.5 miles west of the Project site. The Proposed Project site parcel comprises approximately 6 acres.

The Proposed Project would include structures (main office building, automobile service building, storage building, radio vault building), a radio tower, secured and visitor parking areas, enclosures and storage areas, a fuel island and gas tank, along with utility improvements and other ancillary improvements. The main office building would be a single-story building of approximately 36,740 square feet. The facility would be built to meet California Green Code and Title 24 energy and resource standards and achieve a U.S. Green Building Council Leadership in Energy and Environmental Design silver or higher accreditation. Roadway and sidewalk improvements along South Campus Drive and East Campus Drive adjacent to the Project site are included in the Project plans.

The area of potential effects (APE) (**Figure 3**) for the Proposed Project totals 8.4 acres and consists of the 6-acre site identified for the facility, along with areas needed for road and sidewalk improvements and utility integration. No additional construction staging areas are required. The maximum vertical APE is 148 feet above the ground surface to accommodate the new radio tower. Below ground, the APE is a maximum of 6 feet for the installation of drainage, water supply and wastewater pipelines, and underground utilities. These would be installed in open trenches, typically using conventional cut-and-cover construction techniques.

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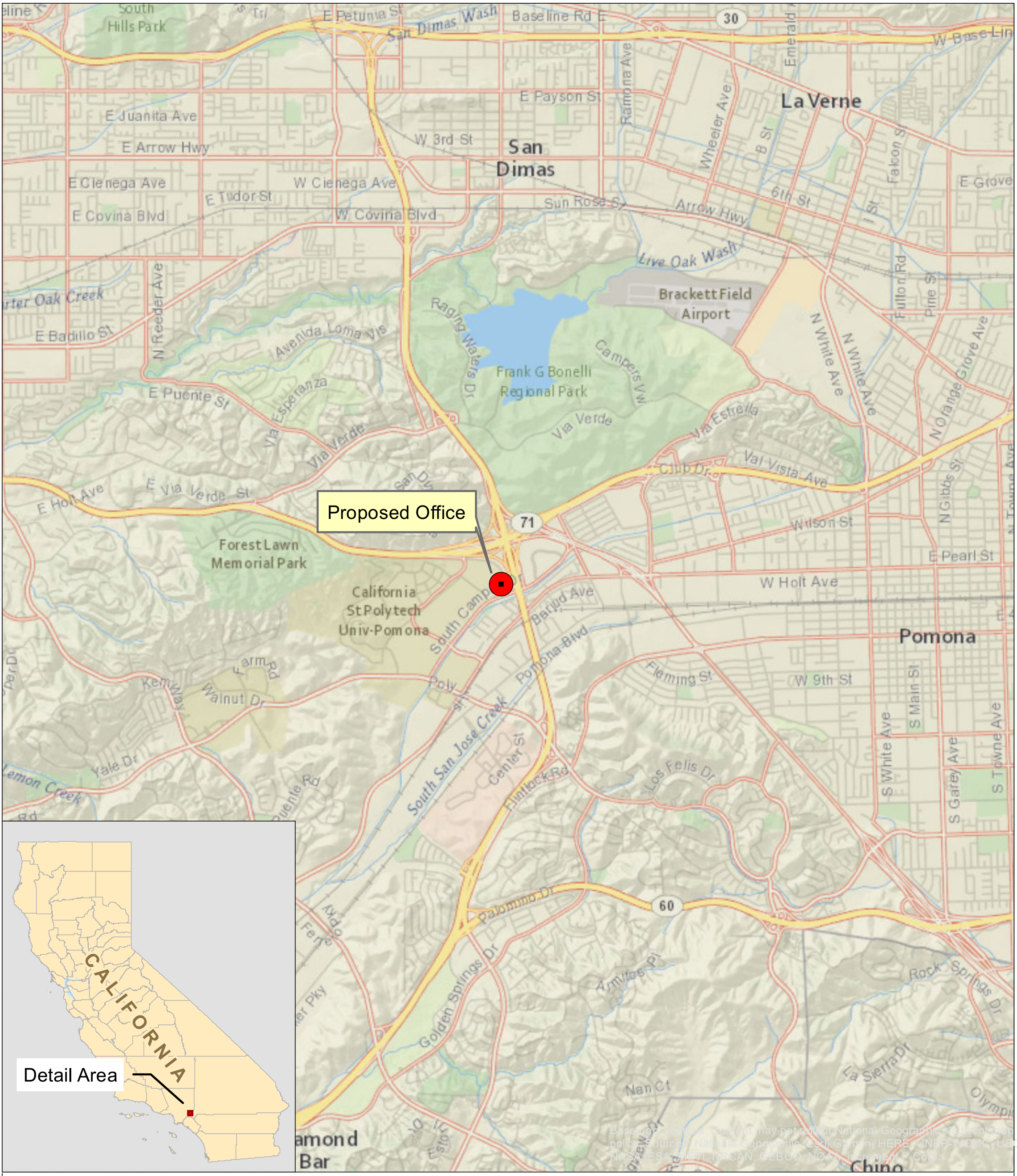


Basemap Sources: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Figure 1
Project Vicinity

Prepared by:

Horizon
WATER and ENVIRONMENT

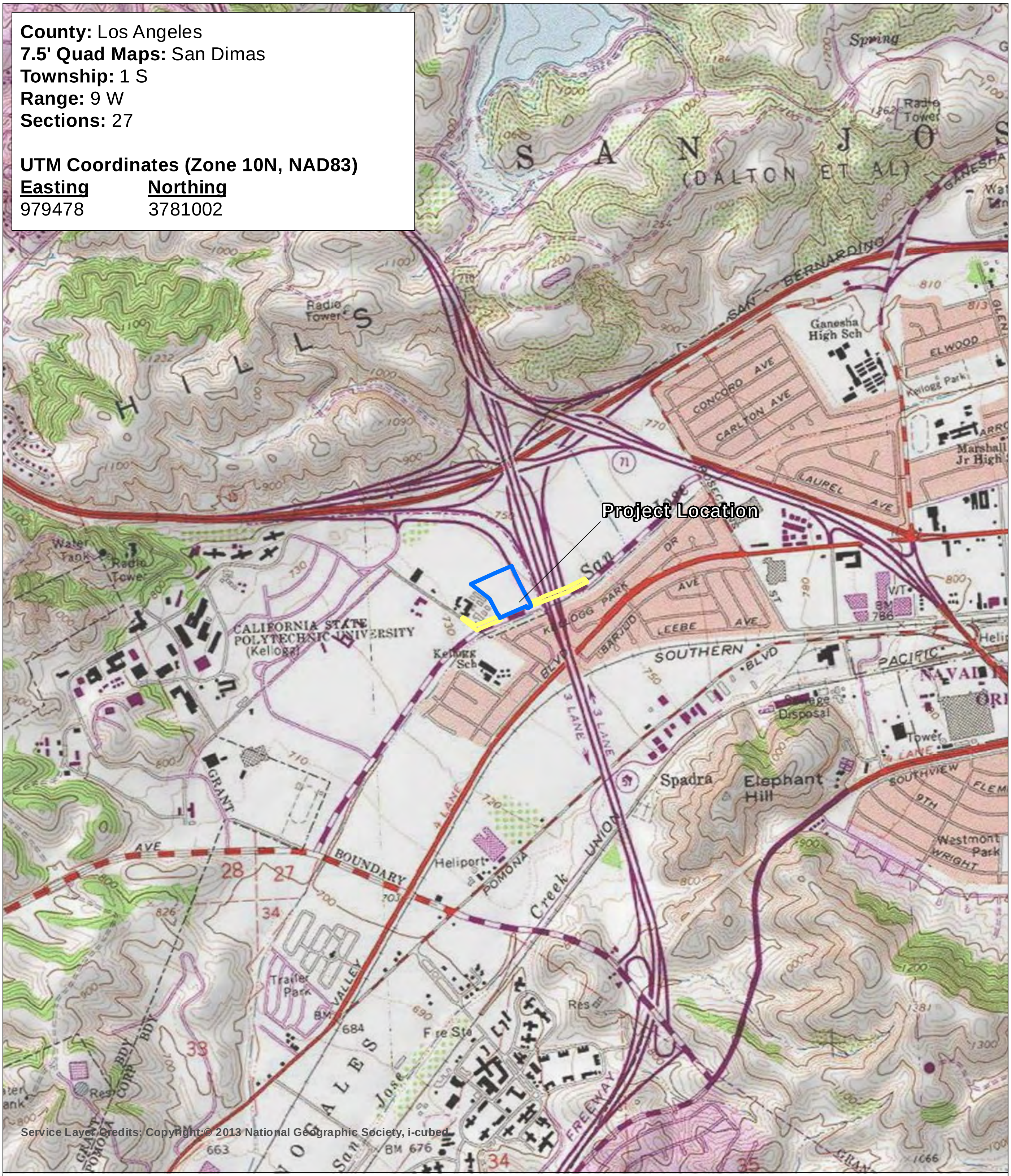
Prepared for:
California Highway Patrol

Baldwin Park Office
Replacement Project

County: Los Angeles
7.5' Quad Maps: San Dimas
Township: 1 S
Range: 9 W
Sections: 27

UTM Coordinates (Zone 10N, NAD83)

Easting	Northing
979478	3781002



Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

N

0 0.125 0.25 0.5 Miles

🟦 Project Area

🟨 Potential Location of Utility Connections

Figure 2
Project Vicinity

Baldwin Park Office
Replacement Project

Basemap Sources: Esri, HERE, Garmin, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Prepared by:

Horizon
WATER and ENVIRONMENT

Prepared for:
California Highway Patrol

🟥 Area of Potential Effect (APE)

┅ Potential Location of Utility Connections

N

0 100 200
Feet

Figure 3
Area of Potential Effect (APE)

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration

1.3 Regulatory Setting and Need for Study

1.3.1 State of California Regulations

CEQA and State CEQA Guidelines

The Proposed Project must comply with California Environmental Quality Act (CEQA) (Public Resources Code [PRC] 21000 et seq. and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3), which determine, in part, whether the project has a significant effect on a unique archaeological resource (per PRC 21083.2) or a historical resource (per PRC 21084.1).

CEQA Guidelines CCR 15064.5 notes that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." Lead agencies are required to identify potentially feasible measures or alternatives to avoid or mitigate significant adverse changes in the significance of a historical resource before such projects are approved. According to the CEQA guidelines, historical resources are:

- Listed in, or determined to be eligible for listing in, the California Register of Historical Resources (per PRC 5024.1(e));
- Included in a local register of historical resources (per PRC 5020.1(k)) or identified as significant in a historical resource survey meeting the requirements of PRC 5024.1(g); or
- Determined by a lead state agency to be historically significant.

CEQA Guidelines CCR 15064.5 also applies to unique archaeological resources as defined in PRC 21084.1.

Assembly Bill 52, which went into effect on July 1, 2015, requires, per PRC 21080.3.1, that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if so requested by the tribe, and if the agency intends to release a negative declaration, mitigated negative declaration, or environmental impact report for a project. The bill also specifies, under PRC 21084.2, that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource (TCR) is considered a project that may have a significant effect on the environment. This latter language was added to the CEQA checklist in September 2016. DGS, as the project's CEQA lead agency, consulted with Native American tribes pursuant to PRC 21080.3.1.

As defined in Section 21074(a) of the PRC, TCRs are:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or

   b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Section 21074(b) and (c) as follows:

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to the newly chaptered Section 21080.3.2, or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

California Register of Historical Resources

PRC Section 5024.1 establishes the California Register of Historical Resources (CRHR). This register lists all California properties considered to be significant historical resources. The CRHR includes all properties listed, or determined to be eligible for listing, in the National Register of Historic Places (NRHP), including properties evaluated under Section 106 of the National Historic Preservation Act. The criteria for listing are similar to those of the NRHP. Criteria for listing in the CRHR include resources that:

1) Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2) Are associated with the lives of persons important in our past;

3) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

4) Have yielded, or may be likely to yield, information important in prehistory or history.

The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

1.3.2 Federal Regulations

The Proposed Project does not require any federal permits, and it is not located on federal lands; therefore, federal laws do not apply to the Proposed Project. The following laws are provided for context only.

The implementing regulations of the National Historic Preservation Act (NHPA) require that cultural resources be evaluated for NRHP eligibility if they cannot be avoided by an undertaking (Proposed Project). To determine site significance through application of NRHP criteria, several levels of potential significance that reflect different (although not necessarily mutually exclusive) values must be considered. As provided in Title 36 Code of Federal Regulations (CFR) Section 60.4, "the quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association" and must be considered within the historic context. Resources must also be at least 50 years old, except in rare cases, and, to meet eligibility criteria of the NRHP, must:

(A) Be associated with events that have made a significant contribution to the broad patterns of our history; or

(B) Be associated with the lives of persons significant in our past; or

(C) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

For archaeological sites evaluated under criterion (D) above, integrity requires that the site remain sufficiently intact to convey the expected information to address specific important research questions.

Cultural resources also may be considered separately under the National Environmental Protection Act per Title 42 United States Code Sections 4321 through 4327. These sections require federal agencies to consider potential environmental impacts and appropriate mitigation measures for projects with federal involvement.

1.4 Personnel

Field work, analysis, and reporting were carried out by the below-listed professionals who meet the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (per Title 48 of the CFR, Section 44716, as amended in 1983). Procedures complied with NHPA Section 106 as set forth in Title 36 of the CFR, Section 800.

- **Janis Offermann, Registered Professional Archaeologist** (Horizon), prepared this report. She has a Bachelor's degree in Anthropology from Sonoma State University in Rohnert Park, California, and a Master's degree in Anthropology from the University of California at Davis. She has more than 40 years of experience in California archaeology and cultural resource management. Ms. Offermann is the cultural resources practice leader with Horizon.

- **Keith Syda, Archaeologist** (Horizon), conducted the archaeological field survey on November 1, 2018. He has a Bachelor's degree in Anthropology from California State University, Sacramento. Mr. Syda has more than 35 years of experience as an archaeologist, working on hundreds of projects over that time that have included both archaeological surveys and excavations.

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2 Project Context

2.1 Prehistoric Context

Nearly a century of archaeological research in the Los Angeles County region has established human occupation during the Early Holocene as early as 9000 B.C., or more. These data are from the northern Channel Islands, but work at San Clemente and Santa Catalina islands also reflects great antiquity at 6500 to 6000 B.C., and establishes a rich and elaborate maritime tradition by this early date (Byrd and Raab 2010). Similarly, early sites have also been identified on the mainland near the coast (c.f., Altschul et al 2007). Overall, research in the interior has demonstrated that settlement and resource exploitation was very diverse and related to local environmental conditions. Generally, however, the prehistory of the mainland in the Project vicinity can be expressed as four different phases of cultural progression during the Pleistocene, Early Holocene, Middle Holocene, Late Holocene, as summarized below. The following is extrapolated from Byrd and Raab (2010).

Pleistocene (Pre-9600 B.C.)

Little evidence of human occupation has been found in the Los Angeles Basin during the last phases of the Pleistocene. The Paleo-Indians of this time appear to be concentrated in areas where large Pleistocene lakes, such as China and Searles lakes in the (now) Mojave Desert, were ideal for hunting large game. When the Pleistocene lakes began to dry up at the end of this period, populations moved west into Los Angeles County and the coastal zone to take advantage of a more diverse range of plant and animal species.

Early Holocene (9600 cal. B.C. to 5600 cal. B.C.)

The new inhabitants of the Project area turned to the exploitation of plant resources as important staples within their diet, in addition to small animals. On the coast, shellfish and fish, were important foods.

Middle Holocene (5600 B.C. to 1650 B.C.)

The importance of seeds and other vegetal resources is evident early during this period, as the use of millingstones becomes prevalent in the archaeological record; hence the period is often referred to as the Millingstone Horizon. Small game gains in importance over large game at this time. Populations appear to become more sedentary, both inland and along the coast. Regional environmental variations reflect local adaptations to the Middle Holocene, when the climate was somewhat drier and warmer than today (West et al. 2010:20). In some cases, this caused the abandonment of some estuarine habitats in favor of river valley locations late in the period.

Late Holocene (1650 cal. B.C. to cal. A.D. 1769)

Resource intensification continued throughout the Late Holocene, particularly in the early stages, as the regional population focused on smaller animals and a more diverse range of plants. This pattern is seen on the coast, as well as inland. Around A.D. 500, the bow and arrow was introduced to the region; this was about the same time that the Gabrielino moved into the area, likely pushing out ancestral Chumash peoples. Settlement patterns shifted from small semi-permanent villages, to large permanent residential communities surrounded by smaller residential encampments. Beyond these there existed seasonal camps for the exploitation of specialized resources.

2.2 Ethnohistoric Context

The Project area is in the ethnographic territory of the Gabrielino, who inhabited the San Fernando Valley and the Los Angeles Basin, including much of present-day Orange County, when the Spanish first arrived in the region. The Gabrielino also occupied the off-coast islands of San Nicolas, Santa Barbara, Santa Catalina, and San Clemente. Because the population was quickly conscripted by the Spanish missionaries, little detail has been recorded about the Gabrielino lifeways prior to the mission period. However, they have been described as the "wealthiest, most populous and most powerful ethnic nationality in aboriginal southern California, their influence spreading as far north as the San Joaquin Valley Yokuts, as far east as the Colorado River, and south into Baja California" (Bean and Smith 1978). Only the Chumash, their neighbors directly to the north, held a similar status.

Settlement pattern studies for the mainland Gabrielino have found that the primary Gabrielino villages were inland along the rivers and major streams within their territory, especially at the interface of the mountains and foothills, and in the prairie that flanks the mountains. Secondary habitation or camp sites were also abundant in these areas. Important resources in these locations included small animals and deer, acorns and pine nuts, and a variety of plants. Also available in the prairie were yucca and cactus, and waterfowl in the adjacent marshlands (Bean and Smith 1978).

The Gabrielino relied heavily on ocean resources, as well. Although no primary villages were located on the coast from San Pedro south to Newport Bay, the area was important for the acquiring shellfish, harvesting kelp, and the taking of fish such as tuna, swordfish, and sharks. Primary villages were scattered along the coast from San Pedro north to Topanga Canyon, where marine resources such as fish, shellfish, sea mammals, and water fowl were important foodstuffs (Bean and Smith 1978).

2.3 Historic-Era Context

The Spanish arrived in Southern California in 1769, where they established a mission in modern-day San Diego. During this same year, Gaspar de Portola explored north to the area of Monterey Bay in search of sites for new missions, passing near to the location where the Mission San Gabriel Arcangel would be founded two years later, on September 8, 1771 (Kyle et al. 2002). The mission was established near the Rio Hondo, about 17 miles west of the Project site.

The Spanish quickly established themselves in the region and conscripted the local Native American population to work at the missions and numerous pueblos that were settled in the late 1700s to support the missions. The small valley that contains the Project site was used to raise cattle for the Mission San Gabriel Arcangel. In 1837, during the Mexican era and after secularization of the missions, the land around modern-day Pomona was granted to Ygnacio Palomares and Ricardo Vejar as Rancho San Jose. Several of the original adobes constructed by Palomares, Vejar, or their associates remain preserved within the City of Pomona (Kyle et al. 2002).

The first American settlement in the Project area was at Spadra. Located less than a mile south of the Project site, a stage station was built on an emigrant road in the 1850s. The Spadra cemetery is all that is left of the small community that existed in the late 1800s (Kyle et al. 2002).

CPP was originally a southern extension of California Polytechnic School in San Luis Obispo, established in 1938 at a site previously occupied by the Voorhis School for Boys in San Dimas. The school initially focused on agriculturally related majors: agriculture inspection, fruit production, and ornamental horticulture. After closing for three years during World War II (1943–1945), the school re-opened in 1946 (CPP 2011).

The Project site was once part of the Kellogg Ranch. The ranch was established by the breakfast cereal magnate as his winter home and as a fulfillment of his dream to raise Arabian horses. The W.K. Kellogg Foundation donated the 812-acre Kellogg Ranch to the university, which includes the current Project site, in 1949 (Cal Poly Alumni Association 2018). However, buildings on the new campus were not completed until the late 1950s, and the Voorhis campus continued to be used until it was sold in the 1970s (CPP 2011). Today the university supports a wide variety of majors and has a population of nearly 26,000 students (CPP 2018).

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3 Native American Consultation and Archival Research

In accordance with the Secretary of the Interior's Standards and the Guidelines for Archaeology and Historic Preservation (Title 48 CFR Section 44716 [amended 1983]), the goals of this archaeological inventory were to identify and completely document the location, qualities, and condition of any potential historic properties in the Project's APE. Methods employed to achieve these goals follow.

3.1 Native American Consultation

An email request was made to the Native American Heritage Commission (NAHC) on September 28, 2018, to review its files for the presence of recorded sacred sites on the Project site. The NAHC responded on October 10, 2018, stating that no significant resources were identified in the Project area as a result of a search of their files. The NAHC also provided a list of six tribes and tribal contacts with a traditional and cultural affiliation with the Project area for notification pursuant to PRC Section 21080.3.1 (also referred to as Assembly Bill 52).

No tribes with a traditional and cultural affiliation to the Project area have requested consultation with CHP on department projects pursuant to PRC Section 21080.3.1. However, in the spirit of PRC Section 21080.3.1, DGS, on behalf of CHP, notified local tribes who were identified by the NAHC as having a traditional and cultural association with the Project area about the Project via letters dated November 5, 2018. DGS did not received any tribal requests for consultation on the Project. **Table 1** lists all those contacted and summarizes the results of the consultation. All correspondence between the NHC, Native American tribes, and DGS is provided in **Appendix A**.

Table 1. Native American Consultation

Organization/Tribe	Name of Contact	Letter Date	Tribal Response	Comments
Gabrieleno Band of Mission Indians – Kizh Nation	Andrew Salas, Chairperson	11/05/2018	No response.	None
Gabrieleno/Tongva Band of Mission Indians	Anthony Morales, Chairperson	11/05/2018	No response.	None
Gabrielino/Tongva Nation	Sandonne Goad, Chairperson	11/05/2018	No response.	None
Gabrielino Tongva Indians of California Tribal Council	Robert F. Dorame, Chairperson	11/05/2018	No response.	None
Gabrielino-Tongva Tribe	Linda Candelaria, Chairperson	11/05/2018	No response.	None
Gabrielino-Tongva Tribe	Charles Alvarez, Council member	11/05/2018	Letter not claimed at the post office	None

3.2 Archival Research

Cultural resources include prehistoric archaeological sites, historic-era archaeological sites, TCRs, and historic buildings, structures, landscapes, districts, and linear features. A records search was conducted by the South Central Coastal Information Center of the California Historical Resources Information System at California State University, Fullerton. The purpose of the record search was to identify the presence of any previously recorded cultural resources within the Project site, and to determine whether any portions of the Project site had been surveyed for cultural resources. The record search (Records Search File No.:19567.5513) indicated that the Project area had not previously been surveyed for cultural resources, but that six surveys had occurred within a 0.25-mile radius of the property. No cultural resources have been recorded within 0.25 mile of the Project site. The records search results are available in **Appendix B**.

A review of historic topographic maps and aerials was conducted as part of the Phase I Environmental Site Assessment of the parcel (Avocet Environmental, Inc. 2018). The earliest topographic map, dating to 1894, indicates that the Project site is adjacent to San Jose Wash, which is now an engineered channel directly south of South Campus Drive. The earliest aerial photograph, from 1928, shows the area is undeveloped but possibly cultivated in row crops. A possible residence and agricultural structures exist on present day Citrus Avenue, and San Jose Creek appears to have been channelized. Little changed in the following decades, but by 1954 the freeway system was under construction and South Campus Drive was defined as a dirt road. By 1966, the current freeway configuration had been established, South Campus Drive and East Campus drive were present, and the area south of East Campus Drive had been developed. The Project parcel remained agricultural through this time, though a small orchard was planted on the east side of the parcel by 1989. Subsequent aerial photos indicate little change in the condition of the parcel.

4 Inventory Methods and Results

An archaeological survey of the Project location was conducted with pedestrian transects at approximate 50-foot intervals on October 31, 2018, by an archaeologist who meets the U.S. Secretary of the Interior's Professional Standards. The ground visibility was 95 to 100 percent and the soils were a light brown silt with natural and imported gravels. No archaeological materials were observed during the survey. No permanent structures are on the site, though two vacant trailers and a conex box are present.

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5 Summary and Recommendations

The CHP is proposing to replace its existing Baldwin Park Area Office as part of a statewide effort to replace aging or inadequate CHP field offices and other facilities. The Proposed Project would relocate the Baldwin Park Area Office to the northwest corner of South Campus Drive and East Campus Drive on land owned by CPP, just west of the City of Pomona. Archival research and pedestrian surveys did not identify any archaeological resources within the Project's APE.

Although no archaeological sites were identified by the archaeological inventory, archaeological sites may be buried with no surface manifestation. Furthermore, the Holocene soils that underlie the Project location have the potential to contain buried archaeological remains. If prehistoric or historic-era materials are encountered, all work in the vicinity should halt until a qualified archaeologist can evaluate the discovery and make recommendations in accordance with 36 CFR Section 800.13(b). Prehistoric materials would most likely include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), tool-making debris, or milling equipment such as mortars and pestles. Historic-era materials might include remains of agricultural implements; stone or concrete footings and walls; and deposits of metal, glass, and/or ceramic refuse.

The possibility of encountering human remains cannot be discounted. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered, work should halt in the vicinity of the remains and, as required by law, the Los Angeles County coroner should be notified immediately. An archaeologist should also be contacted to evaluate the find. If human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of that determination. Pursuant to PRC Section 5097.98, the NAHC, in turn, will immediately contact an individual who is most likely descended from the remains (the "Most Likely Descendant"). The Most Likely Descendant has 48 hours to inspect the site and recommend treatment of the remains. The landowner is obligated to work with the Most Likely Descendant in good faith to find a respectful resolution to the situation and entertain all reasonable options regarding the Most Likely Descendant's preferences for treatment.

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Appendix A
Native American Correspondence

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Local Government Tribal Consultation List Request

Native American Heritage Commission

1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☒ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☐ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ **General Plan** ___ **General Plan Element** ___ **General Plan Amendment**

___ **Specific Plan** ___ **Specific Plan Amendment** ___ **Pre-planning Outreach Activity**

Required Information

Project Title: CHP Baldwin Park Office Replacement Project

Local Government/Lead Agency: California Highway Patrol/Department of General Services

Contact Person: Jennifer Parson

Street Address: 707 Third Street, Suite 4-430

City: West Sacramento **Zip:** 95605

Phone: 916-376-1604 **Fax:**

Email: jennifer.parson@dgs.ca.gov

Specific Area Subject to Proposed Action

County: Los Angeles **City/Community:** Baldwin Park

Project Description:

The California Highway Patrol is proposing to replace its existing office in Baldwin Park with a new office in the vicinity on property currently owned by California Polytechnic State University in Pomona.

Additional Request

☒ **Sacred Lands File Search - *Required Information:***

USGS Quadrangle Name(s): San Dimas

Township: 1S **Range:** 9W **Section(s):** 27

County: Los Angeles
7.5' Quad Maps: San Dimas
Township: 1 S
Range: 9 W
Sections: 27

UTM Coordinates (Zone 10N, NAD83)

Easting	**Northing**
979478	3781002

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

N

0 0.125 0.25 0.5 Miles

Horizon WATER and ENVIRONMENT

▨ Project Area

Figure 2
Project Vicinity

Baldwin Park CHP Site

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

resent to Janis @
horizonh2o.com

October 10, 2018

Jennifer Parsons
California Highway Patrol/Department of General Services

VIA Email to: Jennifer.parsons@dgs.ca.gov

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, CHP Baldwin Park Office Replacement Project, Los Angeles County.

Dear Ms. Parsons,

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code §21080.3.1(d))

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

In accordance with Public Resources Code section 21080.3.1 (d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the Area of Potential Effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
    - A listing of any and all known cultural resources that have already been recorded or are adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
    - Any report that may contain site forms, site significance, and suggested mitigation measures.

    All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.
3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was <u>negative</u>.
4. Any ethnographic studies conducted for any area including all or part of the potential APE; and
5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive or conclusive as to the presence of resources that may be tribal cultural resources. A negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we are able to assure that our consultation list remains current.

If you have any questions, please contact me at my email address: katy.sanchez@nahc.ca.gov.

Sincerely,

Katy

Katy Sanchez
Associate Environmental Planner

Attachment

Native American Heritage Commission
Tribal Consultation List
October 10, 2018

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina , CA 91723
admin@gabrielenoindians.org Gabrielino
(626) 926-4131

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 483-3564 Cell

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 Gabrielino Tongva
Los Angeles , CA 90012
sgoad@gabrielino-tongva.com
(951) 807-0479

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Chairman
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@gmail.com
(562) 761-6417 Voice/Fax

Gabrielino-Tongva Tribe
Linda Candelaria, Chairperson
80839 Camino Santa Juliana
Indio , CA 92203
lcandelaria1@gabrielinotribe.or Gabrielino

Gabrielino-Tongva Tribe
Charles Alvarez, Councilmember
23454 Vanowen St. Gabrielino
West Hills , CA 91307
roadkingcharles@aol.com
(310) 403-6048

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Public Resources Code Sections 210080.1, 21080.3.1 and 21080.3.2.

CHP Baldwin Park Office Replacement Project, Los Angeles County

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES

Governor Edmund G. Brown Jr.

November 5, 2018

Charles Alvarez, Council member
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, CA 91307

RE: CHP Baldwin Park Area Office Replacement Project – Tribal Coordination

Dear Mr. Alvarez:

The Department of General Services (DGS), on behalf of the California Highway Patrol (CHP), is writing to notify you of a proposed project in order to coordinate with you and verify the existence of any information on known tribal resources that may be present or affected. It is important to note that neither DGS nor CHP has received a request from you for notification of projects under Assembly Bill 52 (AB52).

CHP is proposing to replace its current office at 14039 Francisquito Avenue, Baldwin Park, California, with a new facility. The proposed new office, located on 6 acres that are currently part of California Polytechnic State University, Pomona. The property is at the corner of South Campus Drive and East Campus Drive in Baldwin Park, California and is at the southwest corner of the Interstate 10/State Route 57 (Orange Freeway) interchange. The project is part of a statewide effort to replace aging or inadequate CHP field offices and other facilities. The purpose of the proposed project is to relocate the Baldwin Park Area Office on Francisquito Avenue and replace it with new facilities that would provide adequate workspace, equipment storage, and vehicle parking for an increasing number of employees assigned to this office. The proposed project would include four single-story structures (an office building, an automobile service building, a radio vault building, and a property-storage building); a communications tower with a total height of 148 feet; secured and visitor parking areas; enclosures and storage areas; a fuel island and gas tank; various utility improvements; and other ancillary improvements (i.e., fencing, flagpoles, landscaping, exterior lighting, etc.).

A Sacred Lands and Files Search request at the Native American Heritage Commission (NAHC) did not identify any known tribal resources within the project area. However, the NAHC has indicated that local tribes may have information that may not be on file at the NAHC, and your contact information was provided on their List of Native American Contacts for the area as a traditionally and culturally affiliated California Native American tribal representative. We are requesting any information that you may have regarding tribal cultural resources (as defined by Public Resources Code 21074) within the project area so that this information can be incorporated into project planning. DGS is respectfully requesting input from you within 30 days of receipt of this letter.

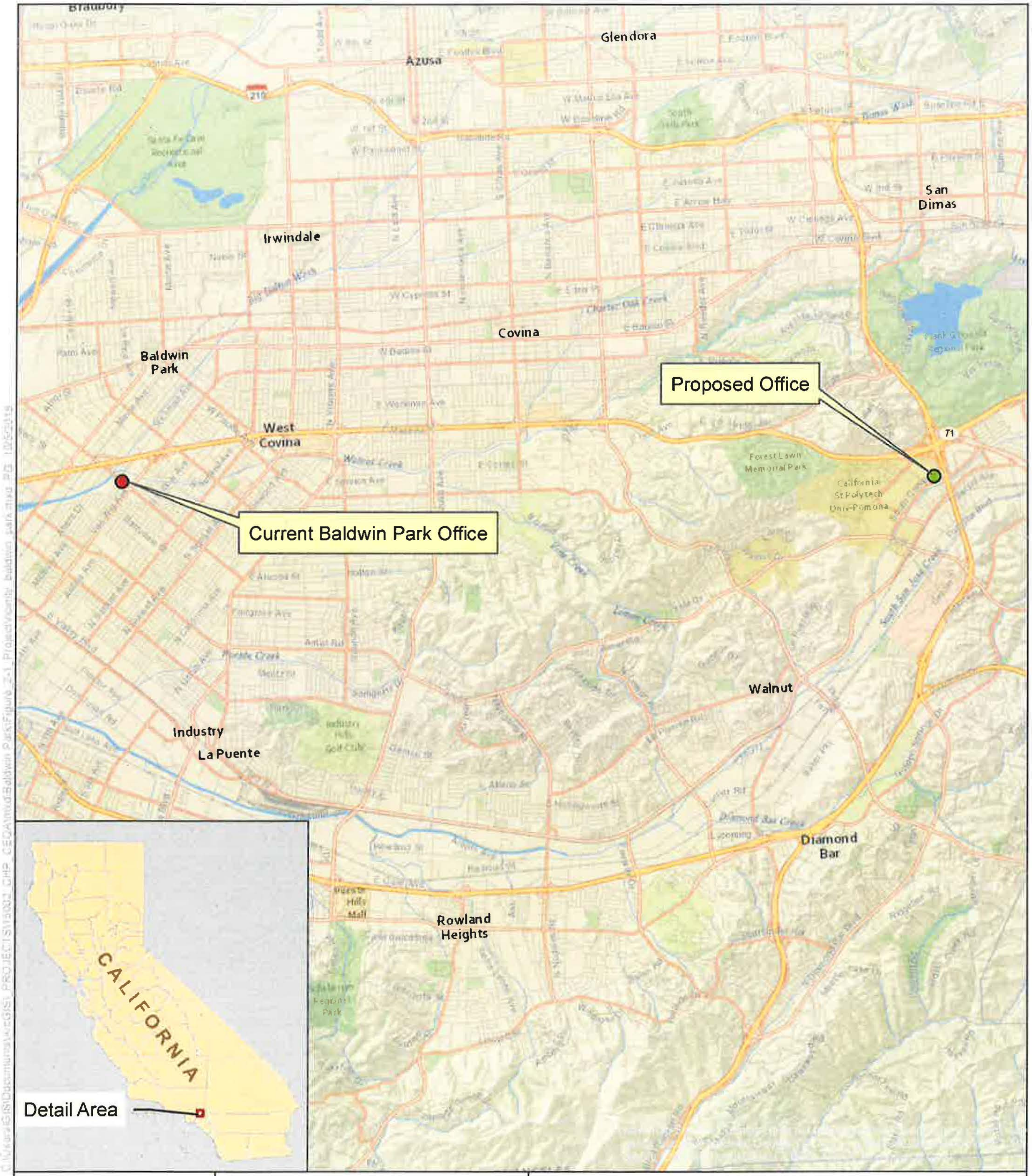
Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at Jennifer.Parson@dgs.ca.gov or by phone at (916) 376-1604.

Sincerely,

Jennifer Parson

Jennifer Parson
Senior Environmental Planner

Enclosures: Figure 1 – Project Vicinity Map
Figure 2 – Project Site



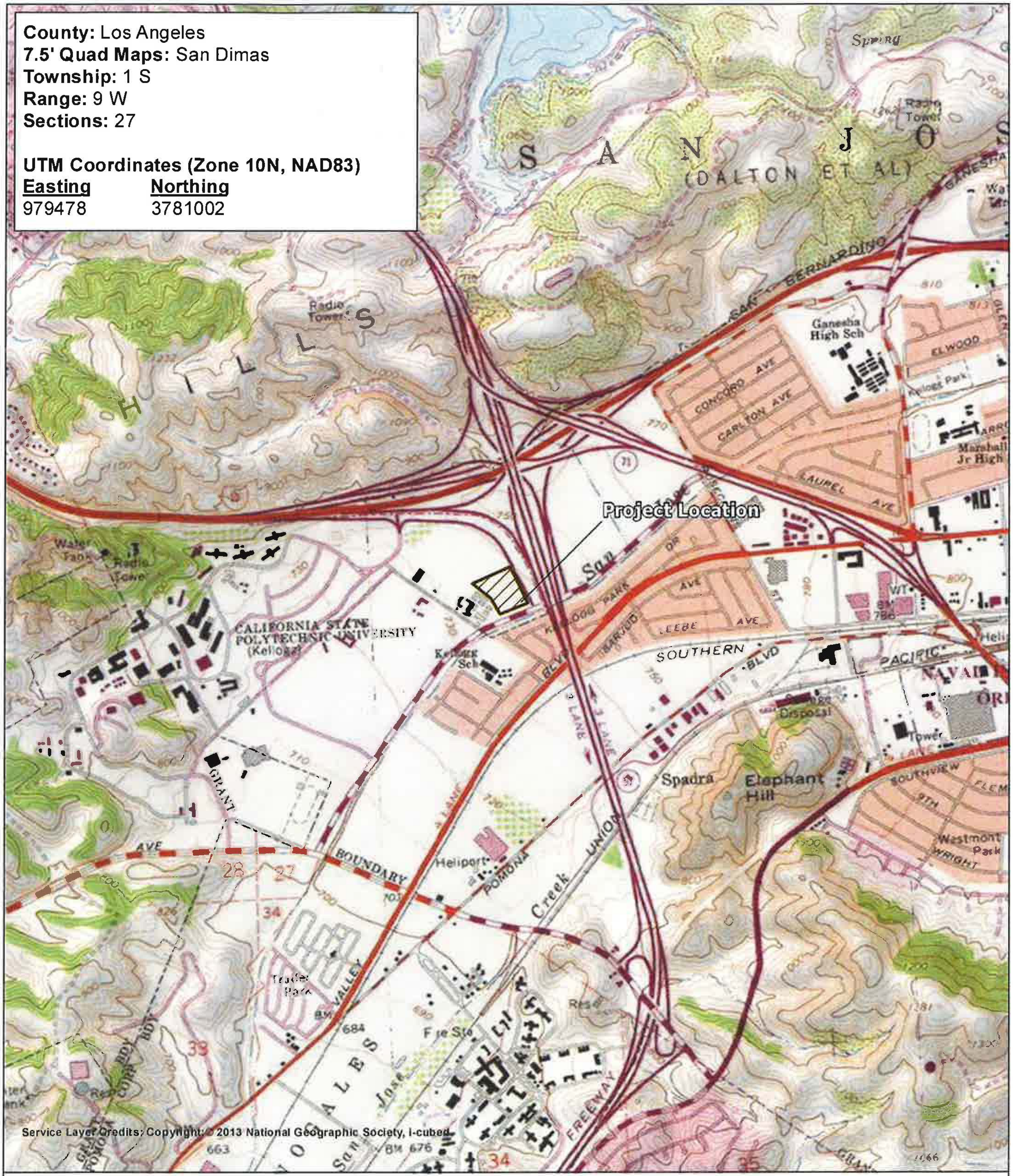
Prepared by:

Horizon Water and Environment

Prepared for:
California Highway Patrol

Figure 1: Project Vicinity

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration



County: Los Angeles
7.5' Quad Maps: San Dimas
Township: 1 S
Range: 9 W
Sections: 27

UTM Coordinates (Zone 10N, NAD83)

Easting	Northing
979478	3781002

Figure 2
Project Vicinity

N

0 0.125 0.25 0.5 Miles

▨ Project Area

Horizon Water and Environment

Baldwin Park CHP Site

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES

Governor Edmund G. Brown Jr.

November 5, 2018

Linda Candelaria, Chairperson
Gabrielino-Tongva Tribe
80839 Camino Santa Juliana
Indio, CA 92203

RE: CHP Baldwin Park Area Office Replacement Project – Tribal Coordination

Dear Honorable Chairperson Candelaria:

The Department of General Services (DGS), on behalf of the California Highway Patrol (CHP), is writing to notify you of a proposed project in order to coordinate with you and verify the existence of any information on known tribal resources that may be present or affected. It is important to note that neither DGS nor CHP has received a request from you for notification of projects under Assembly Bill 52 (AB52).

CHP is proposing to replace its current office at 14039 Francisquito Avenue, Baldwin Park, California, with a new facility. The proposed new office, located on 6 acres that are currently part of California Polytechnic State University, Pomona. The property is at the corner of South Campus Drive and East Campus Drive in Baldwin Park, California and is at the southwest corner of the Interstate 10/State Route 57 (Orange Freeway) interchange. The project is part of a statewide effort to replace aging or inadequate CHP field offices and other facilities. The purpose of the proposed project is to relocate the Baldwin Park Area Office on Francisquito Avenue and replace it with new facilities that would provide adequate workspace, equipment storage, and vehicle parking for an increasing number of employees assigned to this office. The proposed project would include four single-story structures (an office building, an automobile service building, a radio vault building, and a property-storage building); a communications tower with a total height of 148 feet; secured and visitor parking areas; enclosures and storage areas; a fuel island and gas tank; various utility improvements; and other ancillary improvements (i.e., fencing, flagpoles, landscaping, exterior lighting, etc.).

A Sacred Lands and Files Search request at the Native American Heritage Commission (NAHC) did not identify any known tribal resources within the project area. However, the NAHC has indicated that local tribes may have information that may not be on file at the NAHC, and your contact information was provided on their List of Native American Contacts for the area as a traditionally and culturally affiliated California Native American tribal representative. We are requesting any information that you may have regarding tribal cultural resources (as defined by Public Resources Code 21074) within the project area so that this information can be incorporated into project planning. DGS is respectfully requesting input from you within 30 days of receipt of this letter.

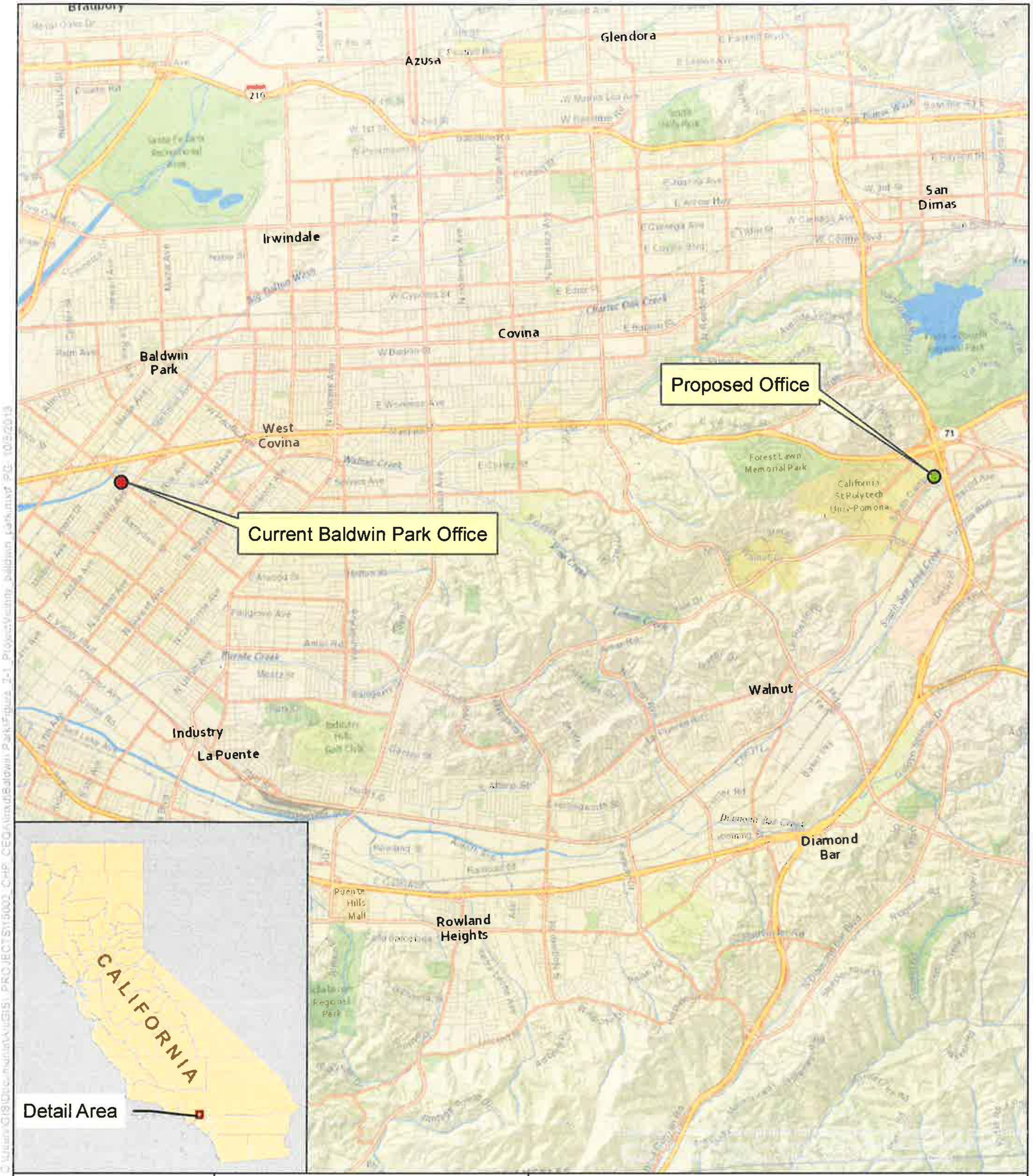
Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at Jennifer.Parson@dgs.ca.gov or by phone at (916) 376-1604.

Sincerely,

Jennifer Parson

Jennifer Parson
Senior Environmental Planner

Enclosures: Figure 1 – Project Vicinity Map
Figure 2 – Project Site



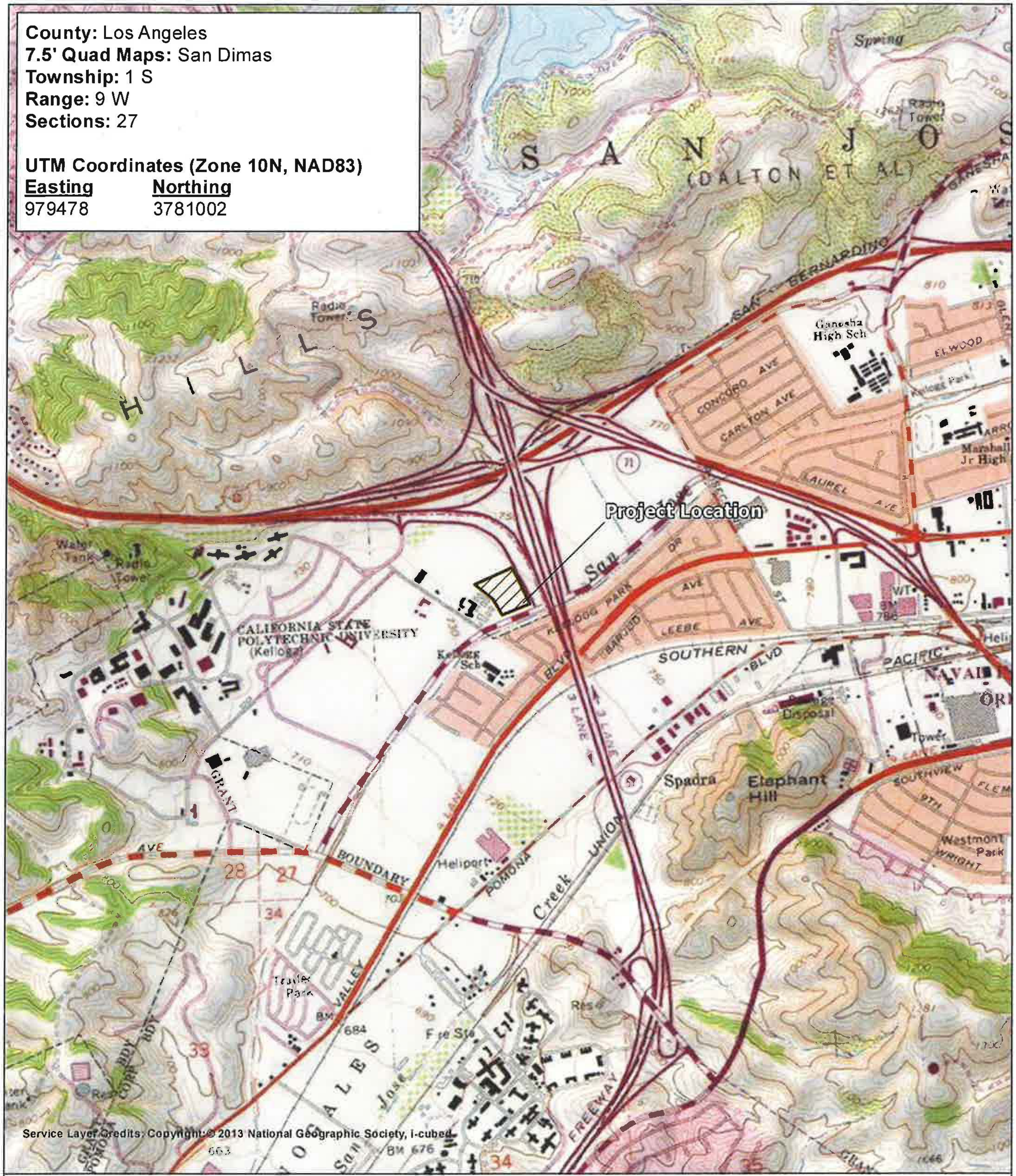
Prepared by:

Horizon Water and Environment

Prepared for:
California Highway Patrol

Figure 1: Project Vicinity

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration



County: Los Angeles
7.5' Quad Maps: San Dimas
Township: 1 S
Range: 9 W
Sections: 27

UTM Coordinates (Zone 10N, NAD83)	
Easting	**Northing**
979478	3781002

Figure 2
Project Vicinity

N

0 0.125 0.25 0.5 Miles

▨ Project Area

Horizon WATER and ENVIRONMENT

Baldwin Park CHP Site

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES

Governor Edmund G. Brown Jr.

November 5, 2018

Robert F. Dorame, Chairperson
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA 90707

RE: CHP Baldwin Park Area Office Replacement Project – Tribal Coordination

Dear Honorable Chairperson Dorame:

The Department of General Services (DGS), on behalf of the California Highway Patrol (CHP), is writing to notify you of a proposed project in order to coordinate with you and verify the existence of any information on known tribal resources that may be present or affected. It is important to note that neither DGS nor CHP has received a request from you for notification of projects under Assembly Bill 52 (AB52).

CHP is proposing to replace its current office at 14039 Francisquito Avenue, Baldwin Park, California, with a new facility. The proposed new office, located on 6 acres that are currently part of California Polytechnic State University, Pomona. The property is at the corner of South Campus Drive and East Campus Drive in Baldwin Park, California and is at the southwest corner of the Interstate 10/State Route 57 (Orange Freeway) interchange. The project is part of a statewide effort to replace aging or inadequate CHP field offices and other facilities. The purpose of the proposed project is to relocate the Baldwin Park Area Office on Francisquito Avenue and replace it with new facilities that would provide adequate workspace, equipment storage, and vehicle parking for an increasing number of employees assigned to this office. The proposed project would include four single-story structures (an office building, an automobile service building, a radio vault building, and a property-storage building); a communications tower with a total height of 148 feet; secured and visitor parking areas; enclosures and storage areas; a fuel island and gas tank; various utility improvements; and other ancillary improvements (i.e., fencing, flagpoles, landscaping, exterior lighting, etc.).

A Sacred Lands and Files Search request at the Native American Heritage Commission (NAHC) did not identify any known tribal resources within the project area. However, the NAHC has indicated that local tribes may have information that may not be on file at the NAHC, and your contact information was provided on their List of Native American Contacts for the area as a traditionally and culturally affiliated California Native American tribal representative. We are requesting any information that you may have regarding tribal cultural resources (as defined by Public Resources Code 21074) within the project area so that this information can be incorporated into project planning. DGS is respectfully requesting input from you within 30 days of receipt of this letter.

Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at Jennifer.Parson@dgs.ca.gov or by phone at (916) 376-1604.

Sincerely,

Jennifer Parson

Jennifer Parson
Senior Environmental Planner

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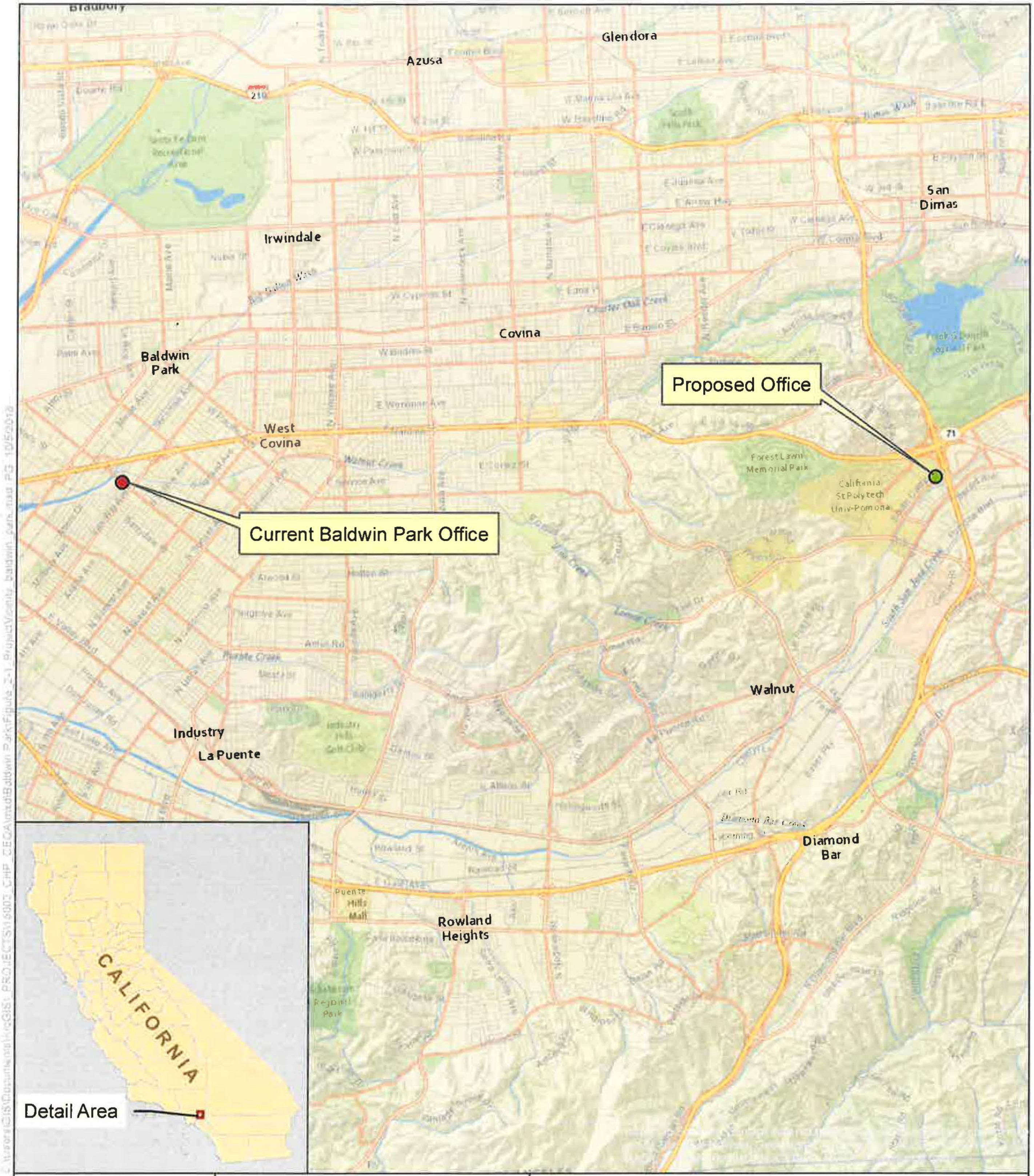

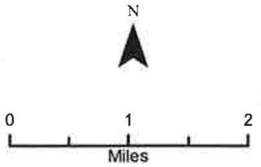

Prepared by:

Horizon
WATER AND ENVIRONMENT

Prepared for:
California Highway Patrol

Figure 1: Project Vicinity

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration

County: Los Angeles
7.5' Quad Maps: San Dimas
Township: 1 S
Range: 9 W
Sections: 27

UTM Coordinates (Zone 10N, NAD83)

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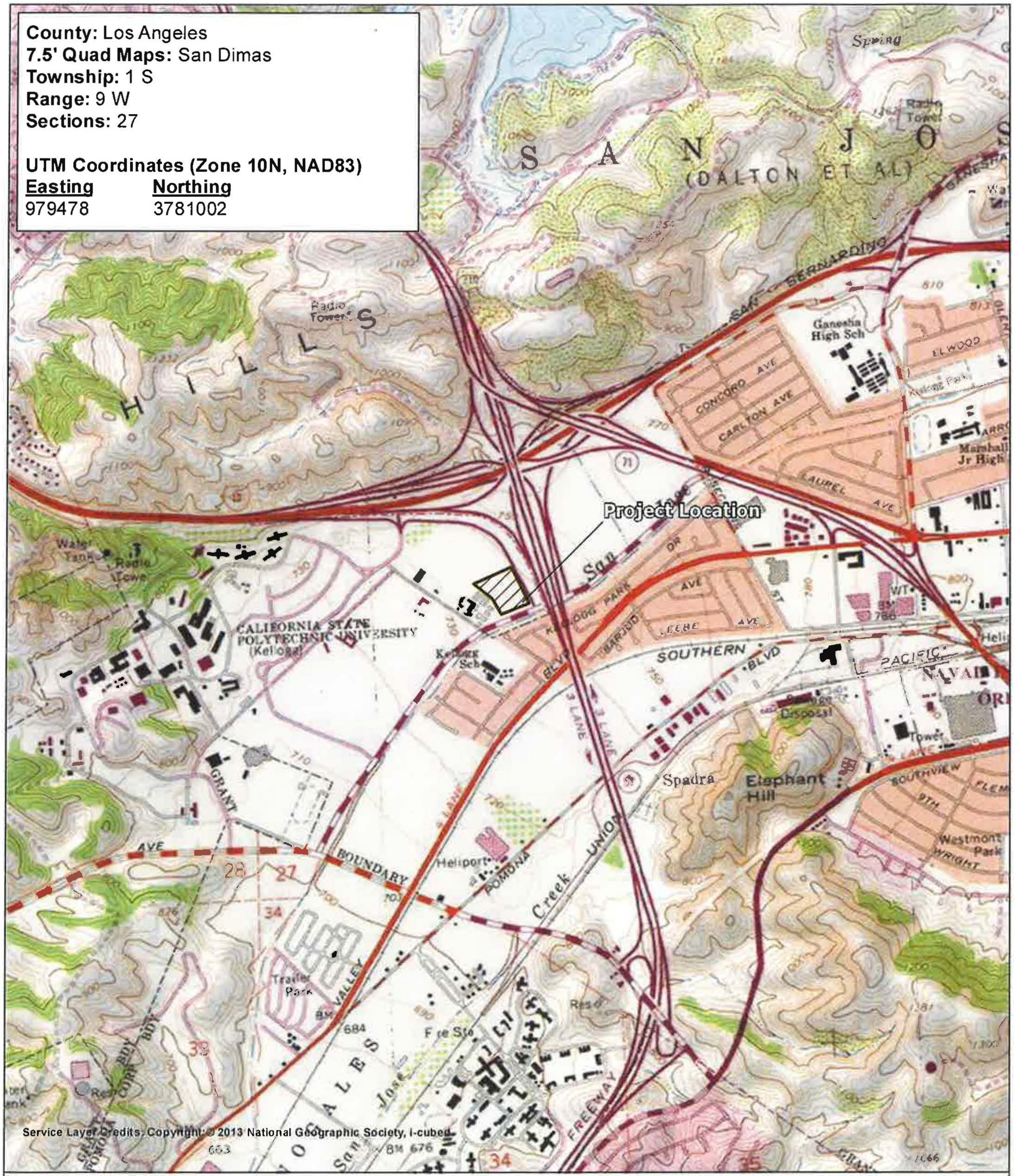

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Figure 2
Project Vicinity

▨ Project Area

Horizon WATER and ENVIRONMENT

Baldwin Park CHP Site

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES

Governor Edmund G. Brown Jr.

November 5, 2018

Sandonne Goad, Chairperson
Gabrielino/Tongva Nation
106 ½ Judge John Aiso Street, #231
Los Angeles, CA 90012

RE: CHP Baldwin Park Area Office Replacement Project – Tribal Coordination

Dear Honorable Chairperson Goad:

The Department of General Services (DGS), on behalf of the California Highway Patrol (CHP), is writing to notify you of a proposed project in order to coordinate with you and verify the existence of any information on known tribal resources that may be present or affected. It is important to note that neither DGS nor CHP has received a request from you for notification of projects under Assembly Bill 52 (AB52).

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Sincerely,

Jennifer Parson

Jennifer Parson
Senior Environmental Planner

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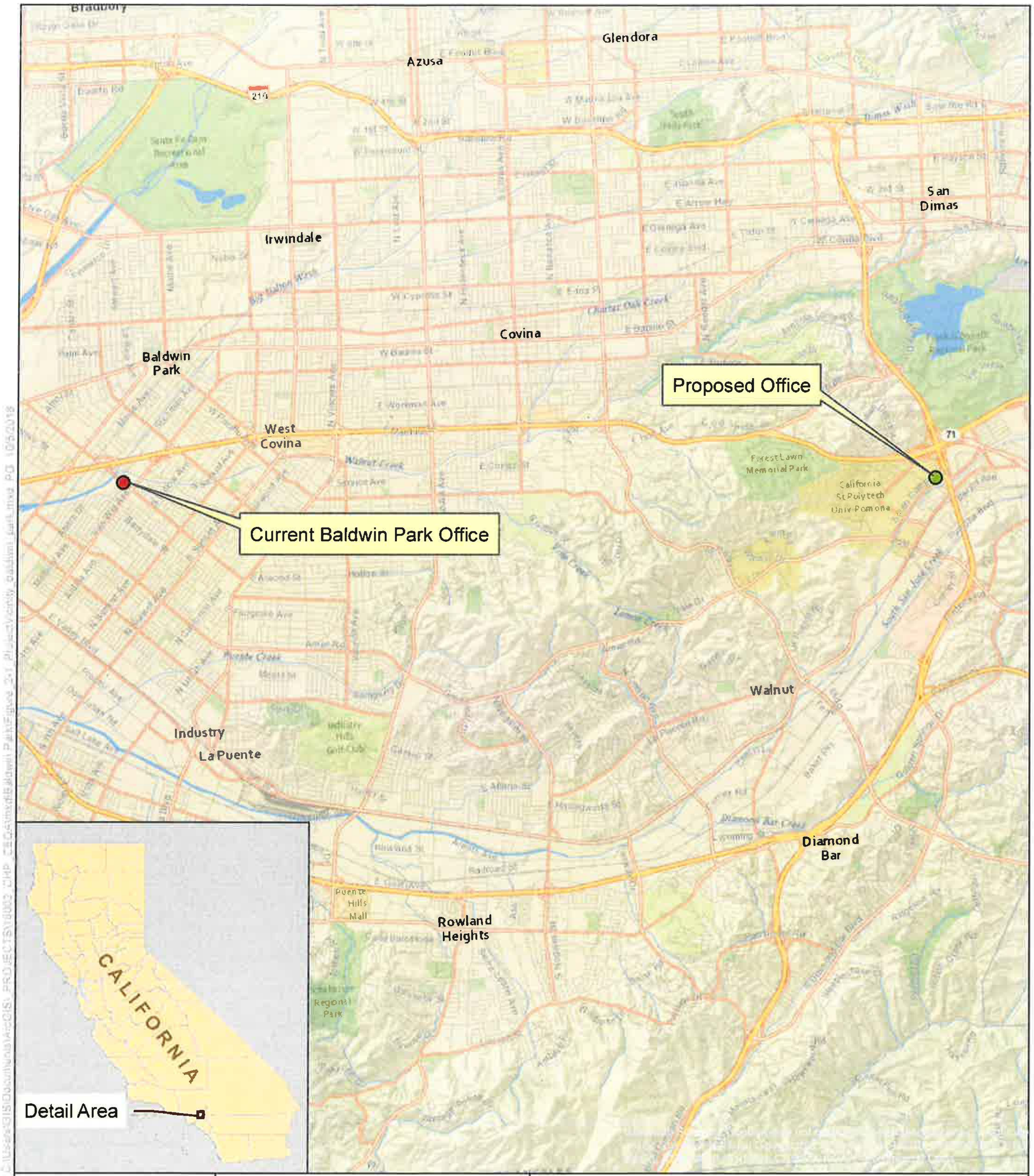

N

0 1 2
Miles

Prepared by:

Horizon Water and Environment

Prepared for:
California Highway Patrol

Figure 1: Project Vicinity

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration

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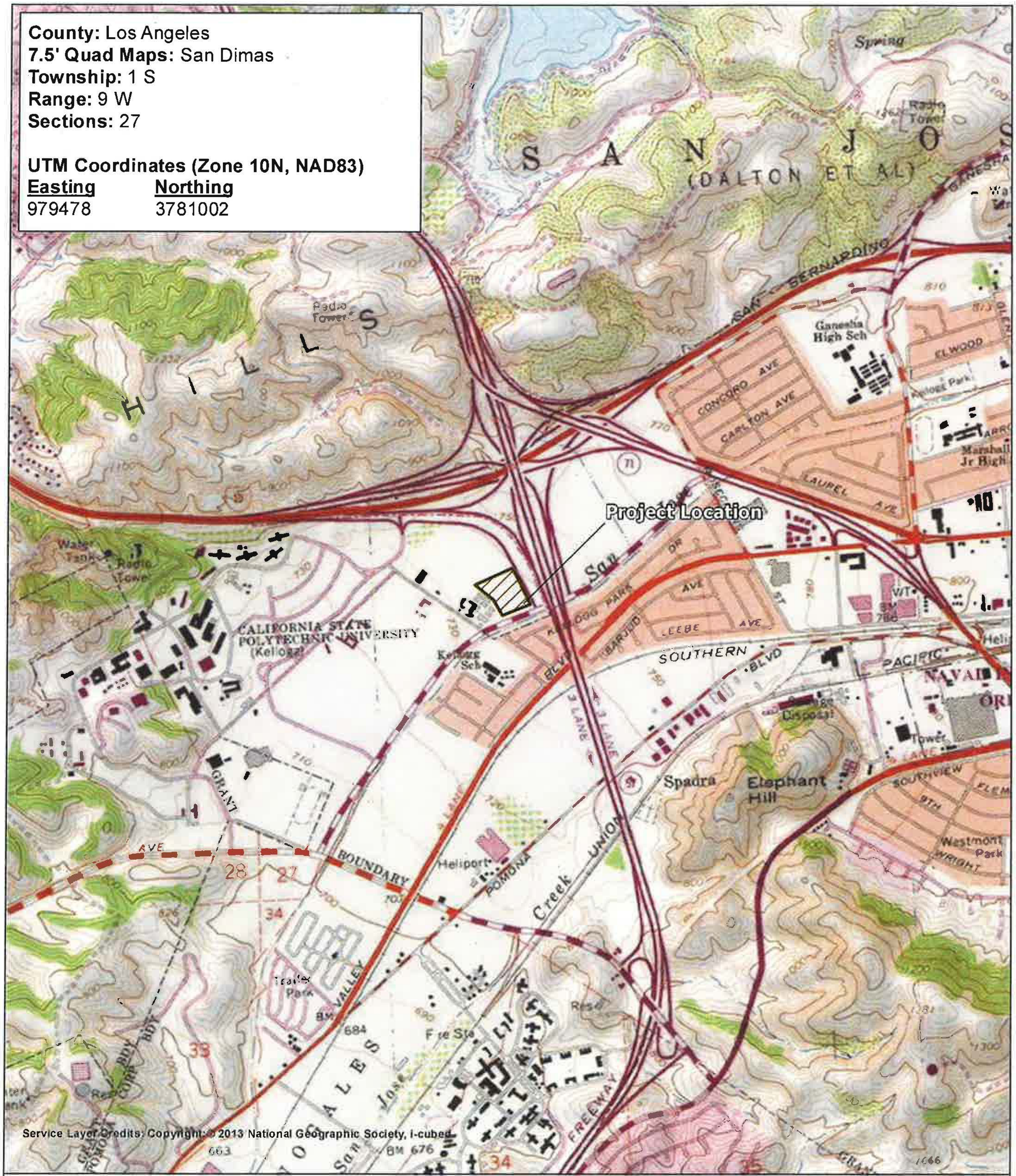

Service Layer Credits: Copyright: © 2013 National Geographic Society, i-cubed

Figure 2
Project Vicinity

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0 0.125 0.25 0.5 Miles

▨ Project Area

Horizon WATER and ENVIRONMENT

Baldwin Park CHP Site

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES

Governor Edmund G. Brown Jr.

November 5, 2018

Anthony Morales, Chairperson
San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778

RE: CHP Baldwin Park Area Office Replacement Project – Tribal Coordination

Dear Honorable Chairperson Morales:

The Department of General Services (DGS), on behalf of the California Highway Patrol (CHP), is writing to notify you of a proposed project in order to coordinate with you and verify the existence of any information on known tribal resources that may be present or affected. It is important to note that neither DGS nor CHP has received a request from you for notification of projects under Assembly Bill 52 (AB52).

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Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at Jennifer.Parson@dgs.ca.gov or by phone at (916) 376-1604.

Sincerely,

Jennifer Parson

Jennifer Parson
Senior Environmental Planner

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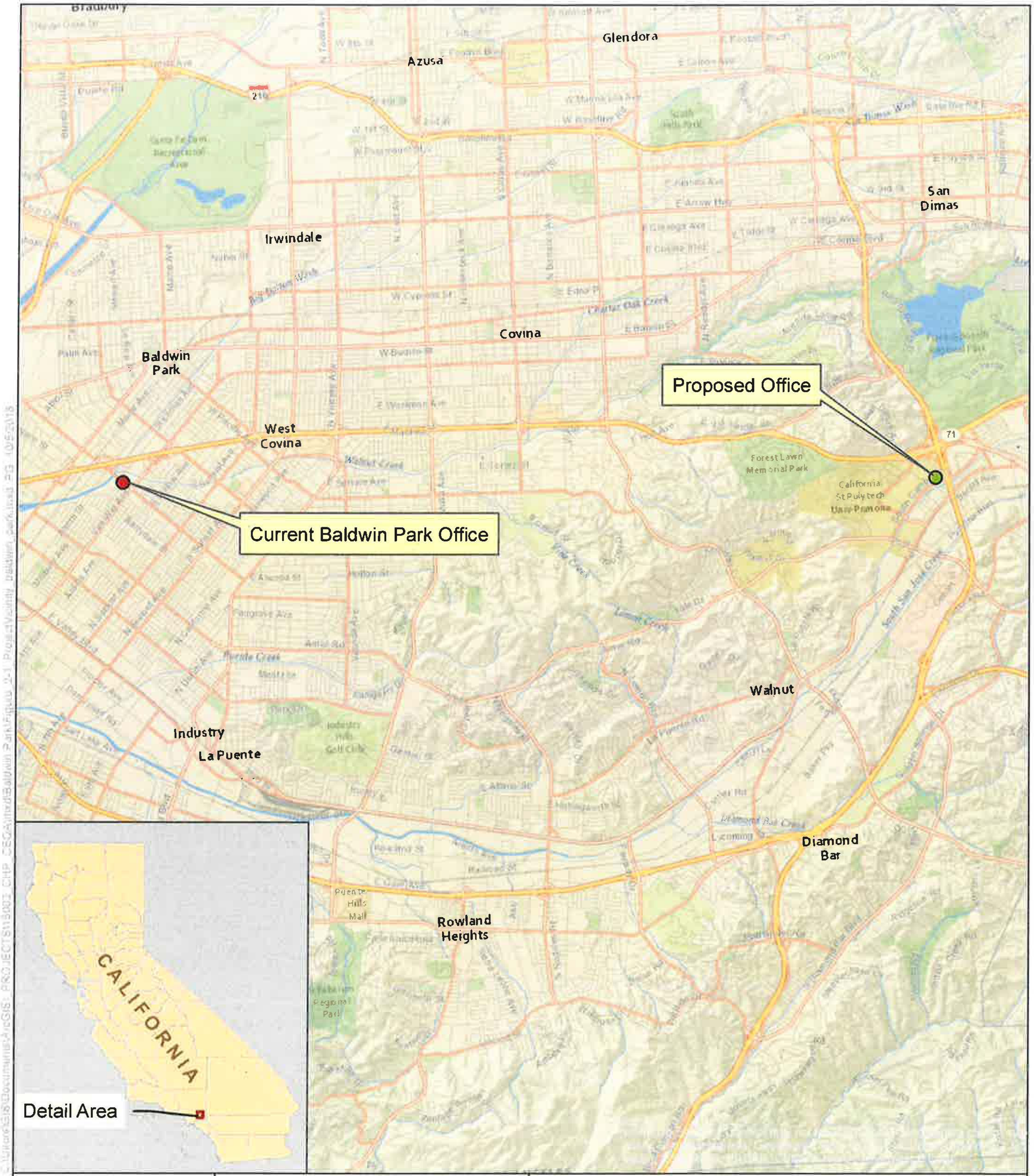


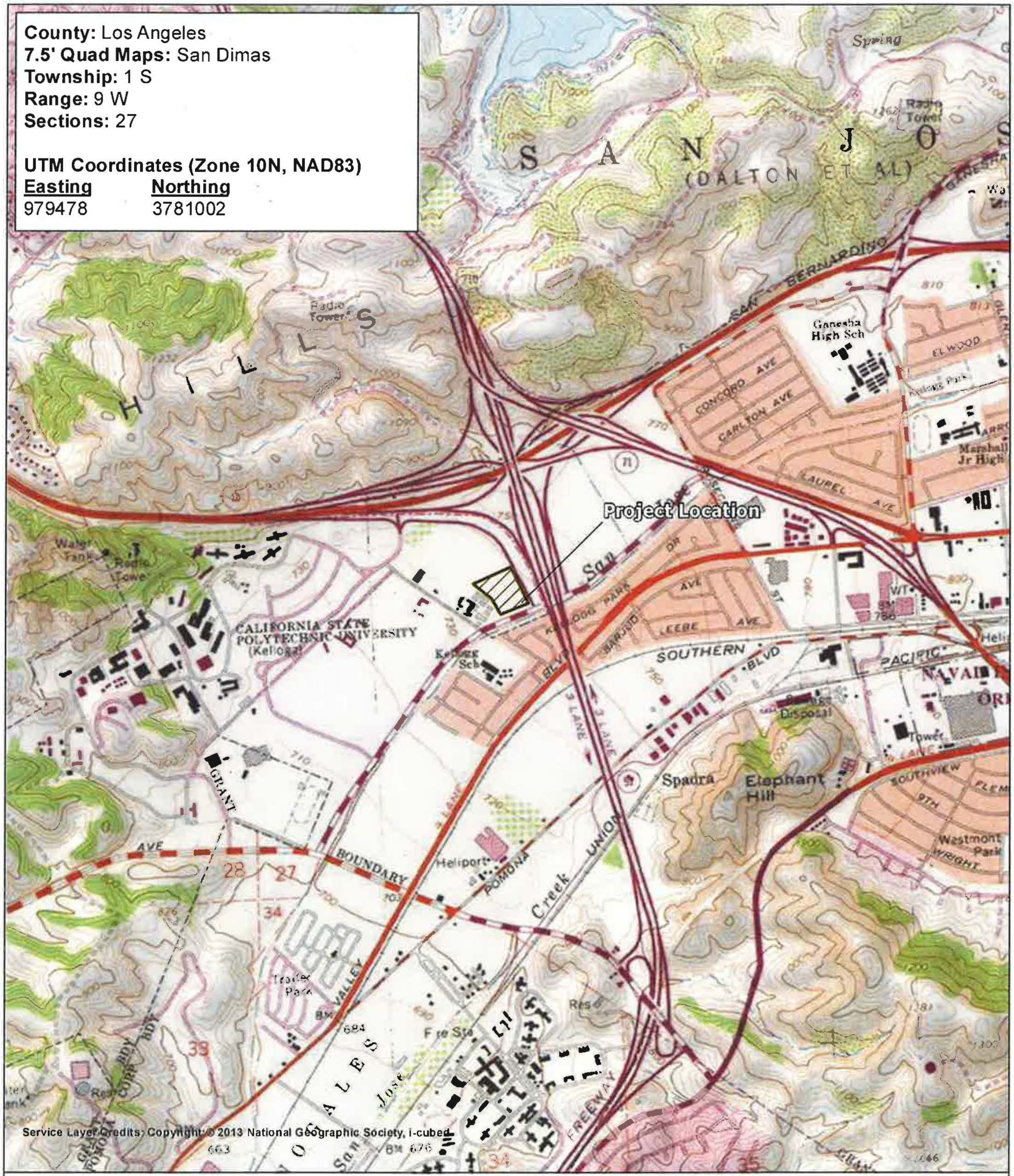
Prepared by:

Horizon WATER AND ENVIRONMENT

Prepared for:
California Highway Patrol

Figure 1: Project Vicinity

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration



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Horizon WATER and ENVIRONMENT

▨ Project Area

Baldwin Park CHP Site

DGS CALIFORNIA DEPARTMENT OF
GENERAL SERVICES

Governor Edmund G. Brown Jr.

November 5, 2018

Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians – Kizh Nation
P.O. Box 393
Covina, CA 91723

RE: CHP Baldwin Park Area Office Replacement Project – Tribal Coordination

Dear Honorable Chairperson Salas:

The Department of General Services (DGS), on behalf of the California Highway Patrol (CHP), is writing to notify you of a proposed project in order to coordinate with you and verify the existence of any information on known tribal resources that may be present or affected. It is important to note that neither DGS nor CHP has received a request from you for notification of projects under Assembly Bill 52 (AB52).

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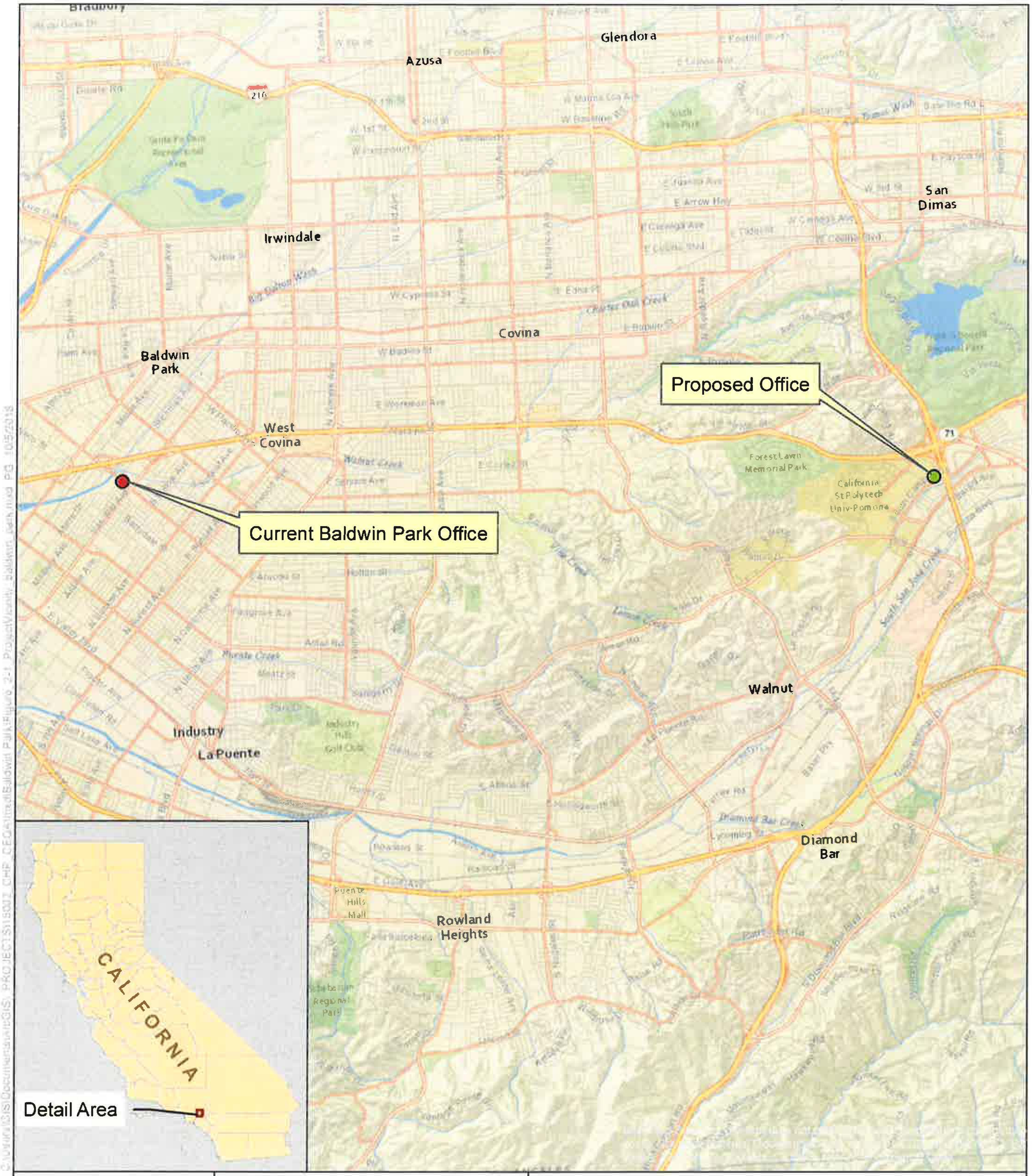
Sincerely,

Jennifer Parson

Jennifer Parson
Senior Environmental Planner

Enclosures: Figure 1 – Project Vicinity Map
Figure 2 – Project Site



Prepared by:

Horizon WATER and ENVIRONMENT

Prepared for:
California Highway Patrol

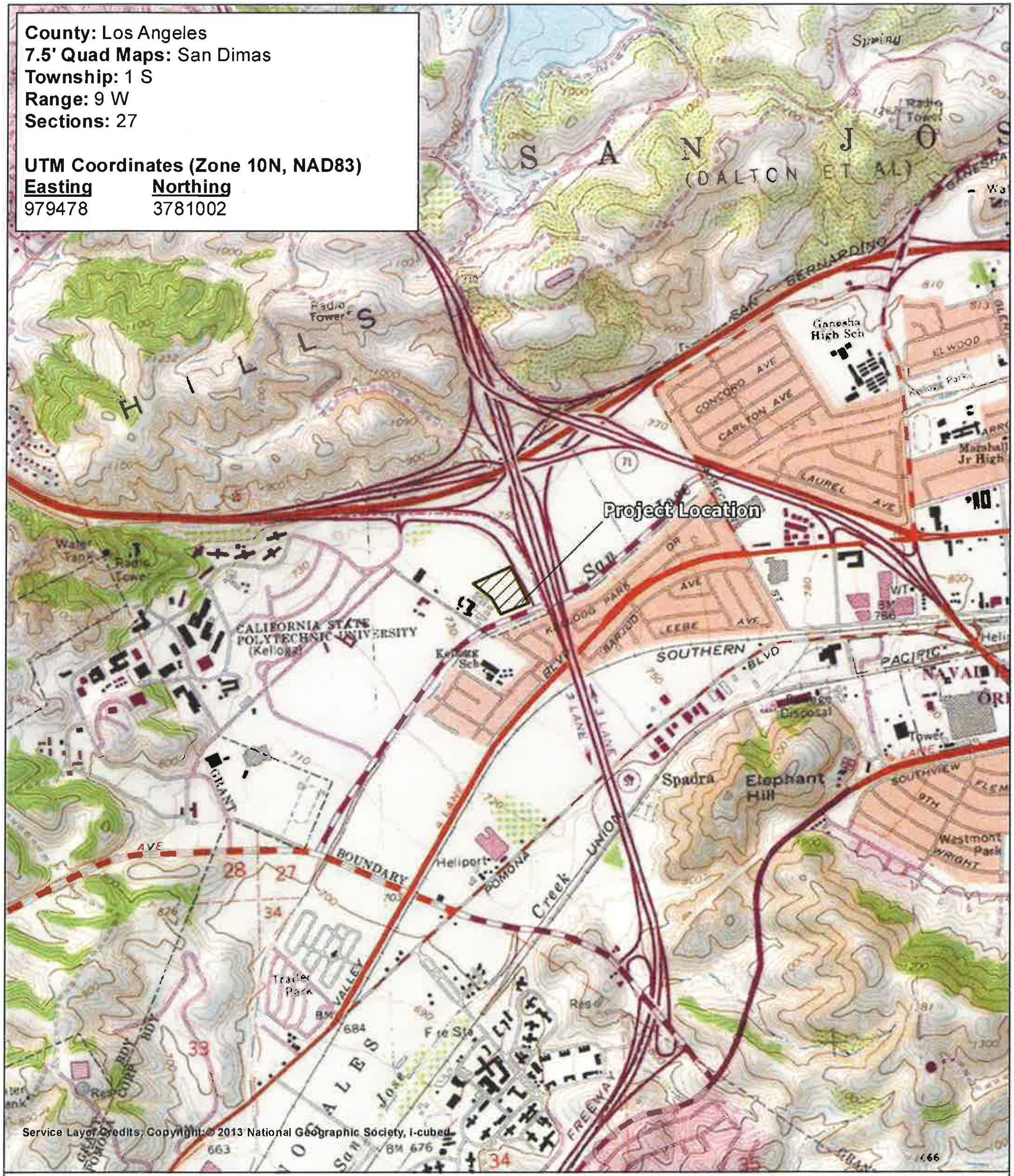
Figure 1: Project Vicinity

Baldwin Park Office Replacement Project
Initial Study/Mitigated Negative Declaration

County: Los Angeles
7.5' Quad Maps: San Dimas
Township: 1 S
Range: 9 W
Sections: 27

UTM Coordinates (Zone 10N, NAD83)

Easting	Northing
979478	3781002



Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

N

0 0.125 0.25 0.5 Miles

▨ Project Area

Figure 2
Project Vicinity

Horizon Water and Environment

Baldwin Park CHP Site

Appendix B
CHRIS South Central Coastal Information Center Results

This appendix contains confidential information and has been removed.

Appendix F

Noise Analysis

Noise Calculations for Baldwin Park CHP

Daytime calculations

Construction Equipment 1 (Jackhammer)	88	dBA at 50 feet
Construction Equipment 2 (Multiple Equipment Types)	85	dBA at 50 feet

Combined Daytime Noise at 50 feet (Ltotal at 50 feet) 89.8 dBA

Ltotal=10 log(10^L1/10+10^L2/10)

Los Angeles County Noise Threshold Limits and Distances from Project Sites to those Limits for Construction Equipment

Noise Threshold	Threshold Level - Leq (dBA)	Distance to Leq Threshold from Middle of Project Site (feet)	
Daytime Limit (7 am-7 pm)	75	273.6	Noise Ordinance
Daytime Limit (7 am-7 pm)	70	486.6	General Plan

Source: Los Angeles County Noise Ordinance and General Plan

Vibration Source Levels for Construction Equipment (FTA 2006)

Equipment	PPV at 25 feet	VBA
Vibratory Roller	0.21	94
Large Bulldozer	0.089	87

Vibration Calculations with Equations for Vibration-Causing Equipment (use of vibratory roller) for Project Site

Threshold	Distance to Threshold from Middle of Project Site (feet)	Notes	
PPV=PPVref * (25/d)^1.5	41.0	Building damage threshold (sensitive buildings)	0.1 in/sec - LA County Noise Ordinance
	231.5	Human Perception (65)	65 VdB
Lvd=Lvref-30log(D/25)	73.2	Annoyance (Federal)	Federal - Annoyance 80 VdB, Damage 0.3 PPV, 0.12 for sensitive buildings

Vibration Calculations with Equations for Vibration-Causing Equipment (use of Large Bulldozer) for Project Site

Threshold	Distance to Threshold from Middle of Project Site (feet)	Notes	
PPV=PPVref * (25/d)^1.5	23.1	Building damage threshold (sensitive buildings)	
	135.3	Human Perception (65)	65 VdB
Lvd=Lvref-30log(D/25)	42.8	Annoyance (Federal)	

Distance (feet) from Center of Project Site to Sensitive Receptors	**Construction Noise level dBA**	**Noise Level Equation: Leq = EL50-20*log(D/50)**
500	69.8	Residences on Hennipen St. and Kellogg Park Dr.
700	66.8	Kellogg Park
1035	63.4	Kellogg Polytechnic Elementary School
1575	59.8	Caesar Chavez Park

Equipment List	Similar name used	dBA 50 from:		FTA 2006	
		FTA 2018	FHWA Handbook	PPV at 25 feet	VBA
Dumptrucks (End and 10 wheel)			84	0.076	86
Compressor	Compressor (air)	80	80		
	Jackhammer	88			
Boom Truck	Crane, Mobile	83			
Crane	Crane	83	85		
Flatbed Delivery Truck			84		
Backhoe/Forklift/Loader		80	80		
Generator		82			
Grader	Grader	85	85		
Track Mounted Excavator	Excavator		85		
Front-end Loader			80		
Bulldozer	Dozer	85	85	0.089	87
Paving Equipment	Scraper, Paver	85	85		
Paving Equipment	Roller	85	85	0.21	94
Concrete Truck	Concrete mixer truck	85	85		
Compactor	Compactor (ground)	82	80		
Mowing equipment					

http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

Two loudest

Two largest vibration sources

Appendix G
Traffic Data

Intersection Turning Movement Counts

Prepared by National Data & Surveying Services

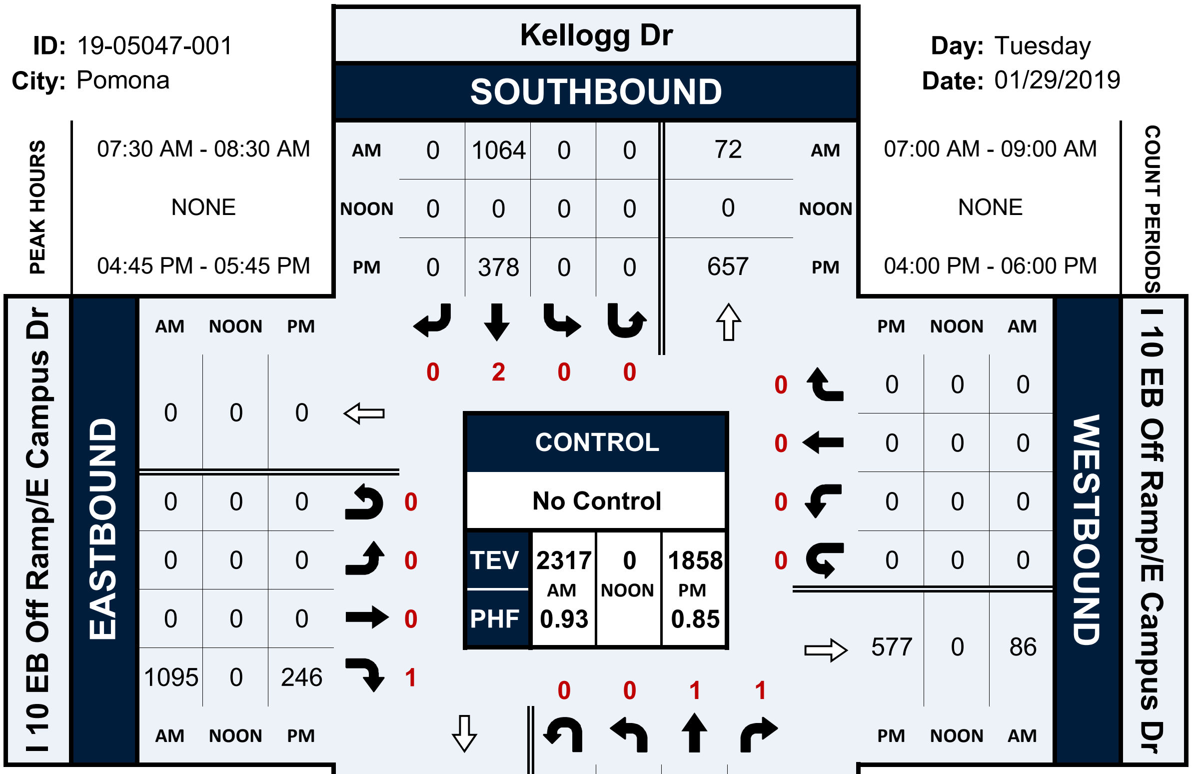
Kellogg Dr & I 10 EB Off Ramp/E Campus Dr

Peak Hour Turning Movement Count

ID: 19-05047-001
City: Pomona

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	04:00 PM - 06:00 PM



Kellogg Dr
SOUTHBOUND

	↲	↓	↳	⮌	⇧
AM	0	1064	0	0	72
NOON	0	0	0	0	0
PM	0	378	0	0	657
	0	2	0	0	

I 10 EB Off Ramp/E Campus Dr
EASTBOUND

	AM	NOON	PM	
⇦	0	0	0	
⮌	0	0	0	0
↱	0	0	0	0
→	0	0	0	0
↴	1095	0	246	1

CONTROL

No Control

	AM	NOON	PM
TEV	2317	0	1858
PHF	0.93		0.85

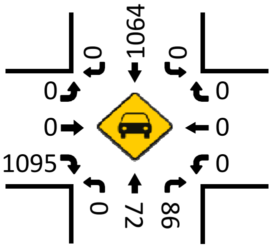
I 10 EB Off Ramp/E Campus Dr
WESTBOUND

		PM	NOON	AM
0	↰	0	0	0
0	←	0	0	0
0	↙	0	0	0
0	⮎	0	0	0
	⇨	577	0	86

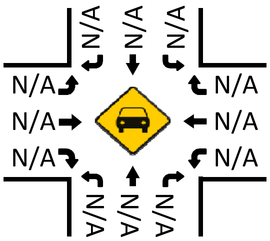
NORTHBOUND
Kellogg Dr

	⇩	⮍	↰	↑	↱
		0	0	1	1
PM	624	0	0	657	577
NOON	0	0	0	0	0
AM	2159	0	0	72	86

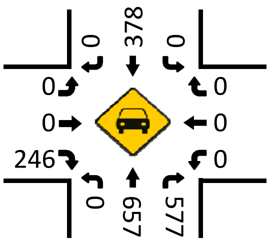
Total Vehicles (AM)



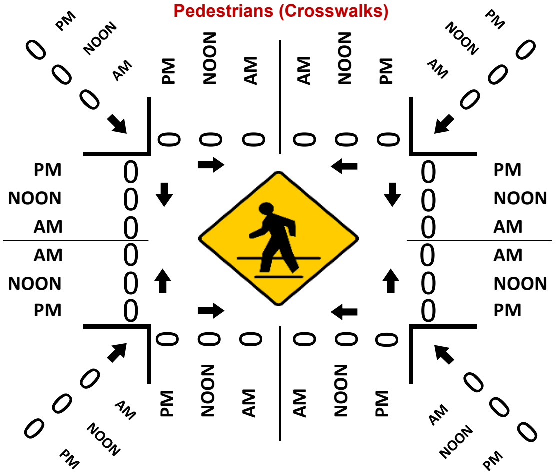
Total Vehicles (Noon)



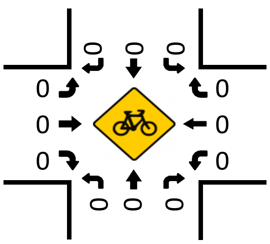
Total Vehicles (PM)



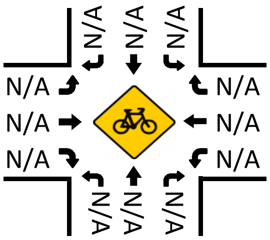
Pedestrians (Crosswalks)



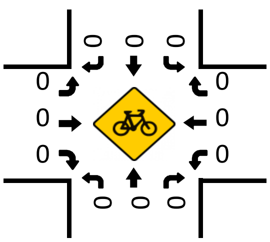
Bikes (AM)



Bikes (NOON)



Bikes (PM)



Prepared by National Data & Surveying Services

E Campus Dr & S Campus Dr

Peak Hour Turning Movement Count

ID: 19-05047-002
City: Pomona

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
07:15 AM - 08:15 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
05:00 PM - 06:00 PM	PM	04:00 PM - 06:00 PM

E Campus Dr
SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	1	0	66	0	0
NOON	0	0	0	0	0
PM	4	0	599	0	0
	0.5	0	0.5	0	

S Campus Dr
EASTBOUND

	AM	NOON	PM	
⇦	911	0	198	
↶	0	0	0	0
↱	0	0	0	0
→	368	0	991	2
↴	0	0	0	0

S Campus Dr
WESTBOUND

		PM	NOON	AM
0	↰	0	0	0
2	←	194	0	910
0	↲	0	0	0
0	↷	0	0	0
	⇨	1590	0	434

CONTROL

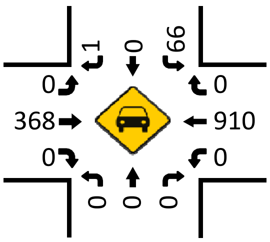
Signalized

	AM	NOON	PM
TEV	1345	0	1788
PHF	0.94		0.93

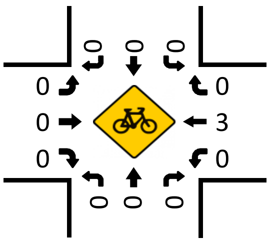
NORTHBOUND
E Campus Dr

	⇩	↷	↰	↑	↱
		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

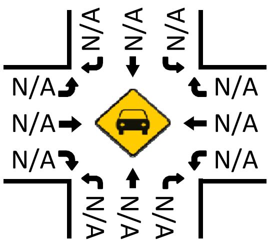
Total Vehicles (AM)



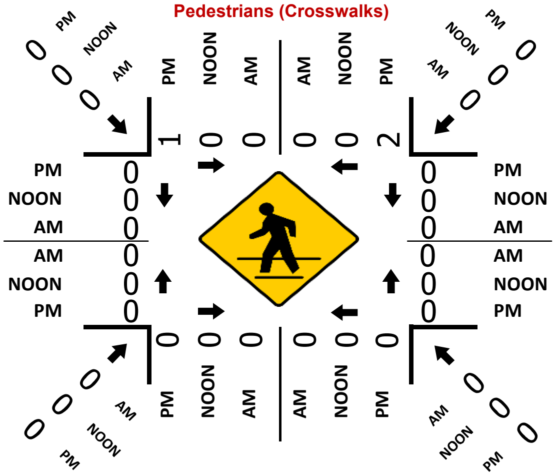
Bikes (AM)



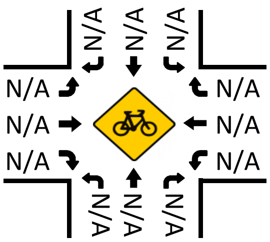
Total Vehicles (Noon)



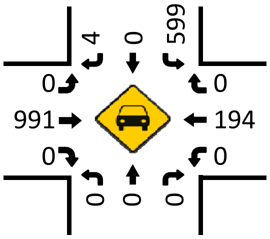
Pedestrians (Crosswalks)



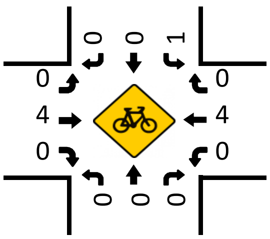
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Kellogg Dr & S Campus Dr

Peak Hour Turning Movement Count

ID: 19-05047-003
City: Pomona

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Kellogg Dr
SOUTHBOUND

	↲	↓	↳	U	⇧
AM	422	118	51	0	1205
NOON	0	0	0	0	0
PM	526	313	127	0	544
	1.5	1.5	1	0	

S Campus Dr
EASTBOUND

	AM	NOON	PM	
⇦	1098	0	706	
U	0	0	0	0
↱	445	0	289	2
→	267	0	654	2
↴	32	0	29	0

S Campus Dr
WESTBOUND

		PM	NOON	AM
↰	0	51	0	218
←	2	143	0	526
↙	1	26	0	73
U	0	0	0	0
⇨		964	0	375

CONTROL

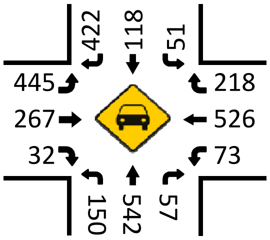
Signalized

	AM	NOON	PM
TEV	2901	0	2582
PHF	0.95		0.93

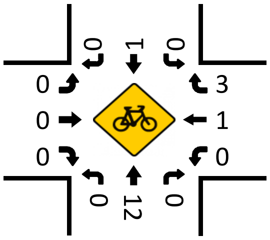
NORTHBOUND
Kellogg Dr

	⇩	U	↰	↑	↱
		0	1	2	0
PM	368	0	37	204	183
NOON	0	0	0	0	0
AM	223	0	150	542	57

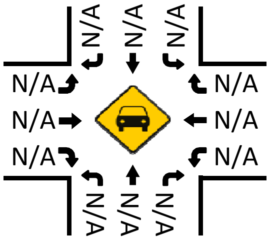
Total Vehicles (AM)



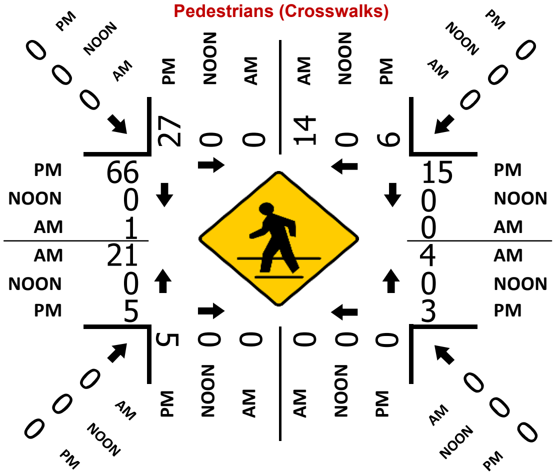
Bikes (AM)



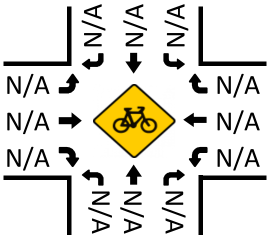
Total Vehicles (Noon)



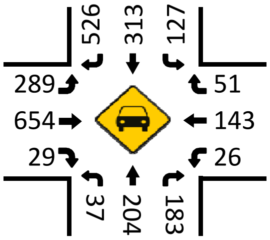
Pedestrians (Crosswalks)



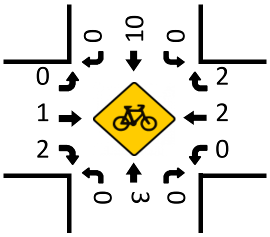
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

I 10 EB On Ramp & S Campus Dr

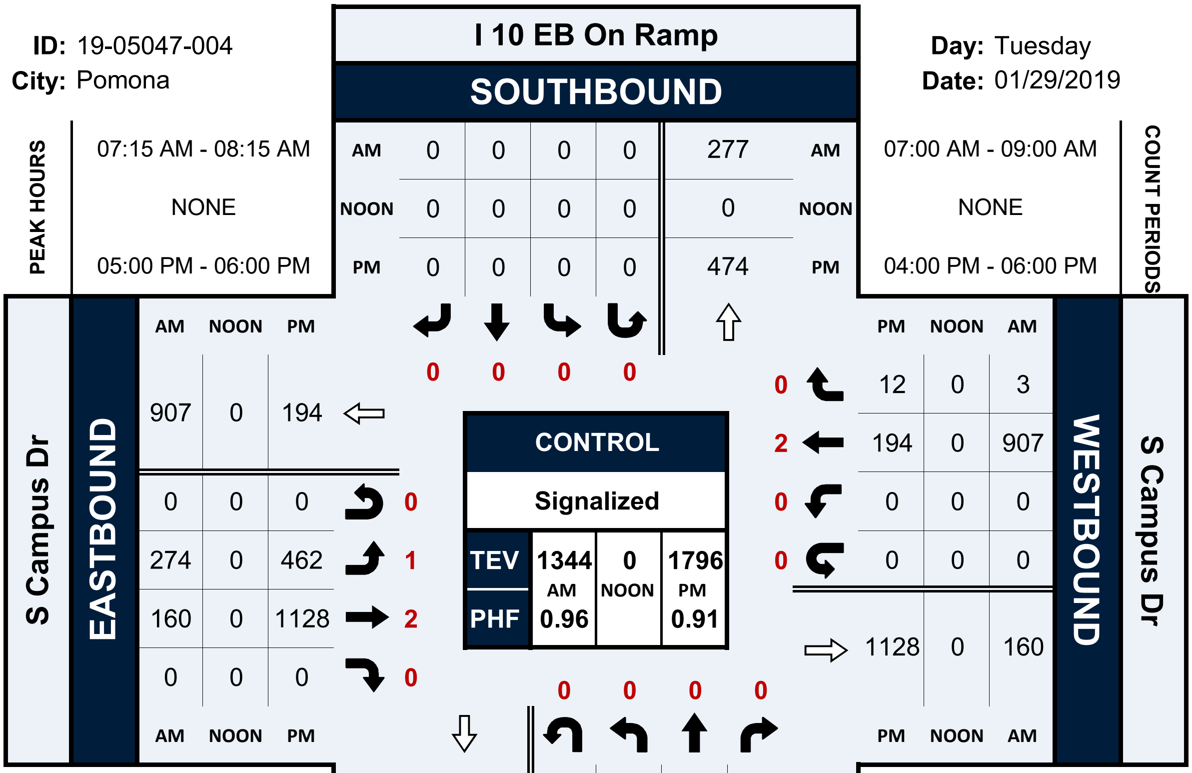
Peak Hour Turning Movement Count

ID: 19-05047-004
City: Pomona

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM



SOUTHBOUND

AM	0	0	0	0	277
NOON	0	0	0	0	0
PM	0	0	0	0	474

EASTBOUND

AM	NOON	PM
907	0	194
0	0	0
274	0	462
160	0	1128
0	0	0

WESTBOUND

PM	NOON	AM
12	0	3
194	0	907
0	0	0
0	0	0
1128	0	160

NORTHBOUND

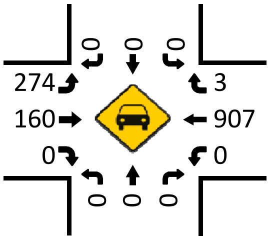
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

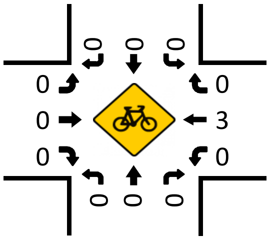
Signalized

	AM	NOON	PM
TEV	1344	0	1796
PHF	0.96		0.91

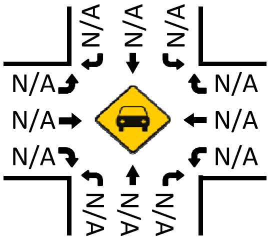
Total Vehicles (AM)



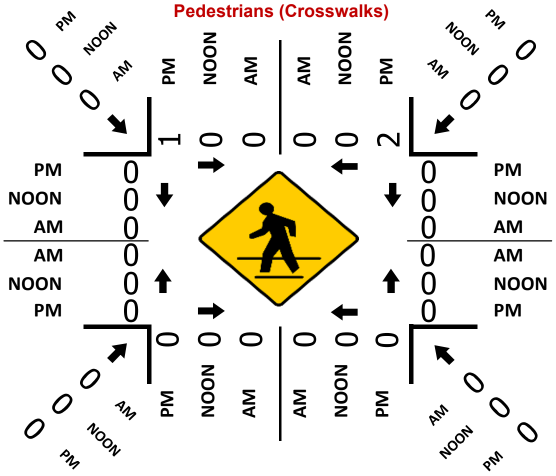
Bikes (AM)



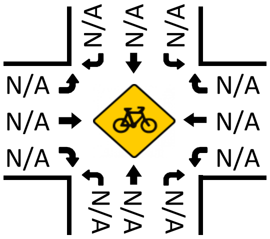
Total Vehicles (Noon)



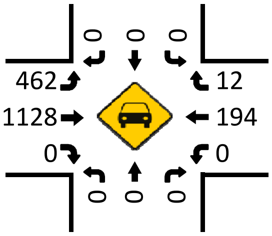
Pedestrians (Crosswalks)



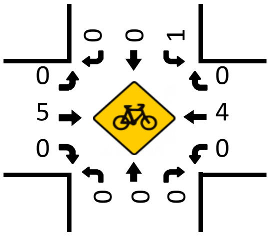
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



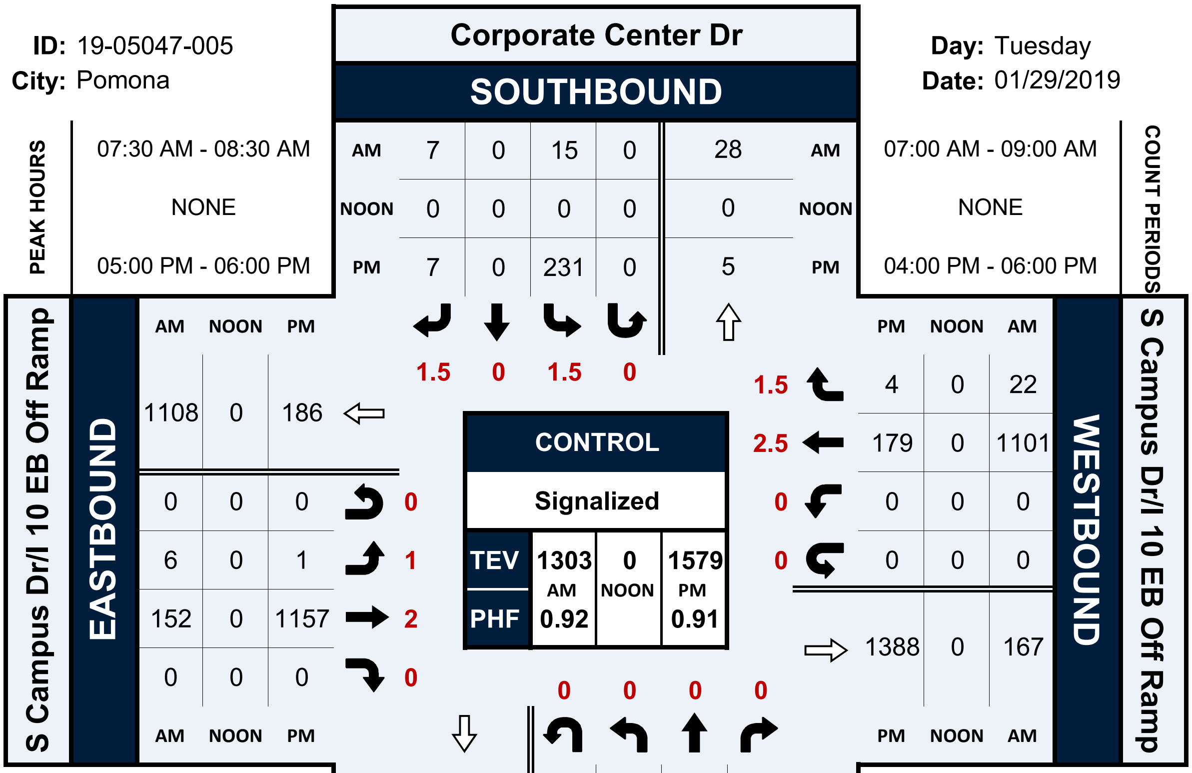
Prepared by National Data & Surveying Services

Corporate Center Dr & S Campus Dr/I 10 EB Off Ramp

Peak Hour Turning Movement Count

ID: 19-05047-005
City: Pomona

Day: Tuesday
Date: 01/29/2019



	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Corporate Center Dr

SOUTHBOUND

	↲	↓	↳	U	⇧
AM	7	0	15	0	28
NOON	0	0	0	0	0
PM	7	0	231	0	5
	1.5	0	1.5	0	

S Campus Dr/I 10 EB Off Ramp

WESTBOUND

		PM	NOON	AM
↰	1.5	4	0	22
←	2.5	179	0	1101
↲	0	0	0	0
U	0	0	0	0
⇨		1388	0	167

S Campus Dr/I 10 EB Off Ramp

EASTBOUND

AM	NOON	PM		
1108	0	186	⇦	
0	0	0	U	0
6	0	1	↱	1
152	0	1157	→	2
0	0	0	↴	0

CONTROL

Signalized

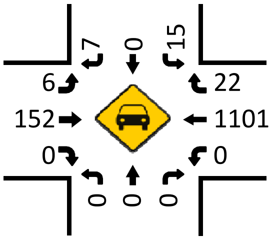
	AM	NOON	PM
TEV	1303	0	1579
PHF	0.92		0.91

NORTHBOUND

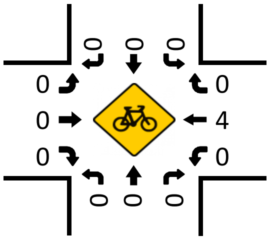
Corporate Center Dr

	⇩	U	↰	↑	↱
		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

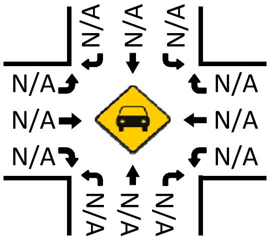
Total Vehicles (AM)



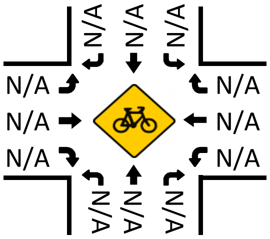
Bikes (AM)



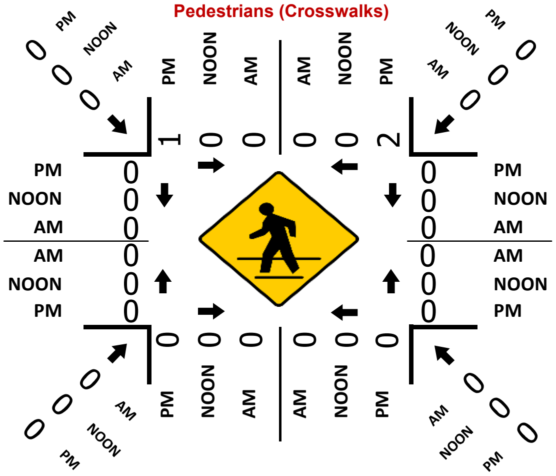
Total Vehicles (Noon)



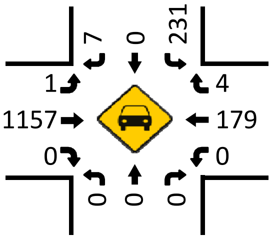
Bikes (NOON)



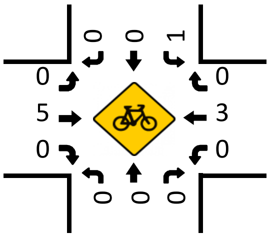
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Ridgeway St & S Campus Dr

Peak Hour Turning Movement Count

ID: 19-05047-006
City: Pomona

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
05:00 PM - 06:00 PM	PM	04:00 PM - 06:00 PM

Ridgeway St — SOUTHBOUND

	↲	↓	↳	U	⇧
AM	760	233	0	0	253
NOON	0	0	0	0	0
PM	110	121	0	0	1320
	1	1	0	0	

S Campus Dr — EASTBOUND

	AM	NOON	PM	
⇦	1130	0	180	
U	0	0	0	0
↰	93	0	950	1.5
→	0	0	0	0
↱	75	0	435	1.5

S Campus Dr — WESTBOUND

		PM	NOON	AM
U	0	0	0	0
←	0	0	0	0
↰	0	0	0	0
↱	0	0	0	0
⇨		0	0	0

Ridgeway St — NORTHBOUND

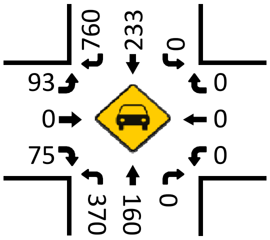
	⇩	U	↰	↑	↱
		0	1.5	0.5	0
PM	556	0	70	370	0
NOON	0	0	0	0	0
AM	308	0	370	160	0

CONTROL

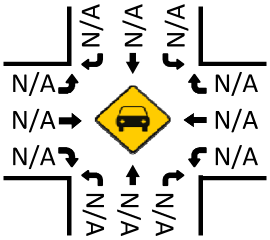
Signalized

	AM	NOON	PM
TEV	1691	0	2056
PHF	0.88		0.92

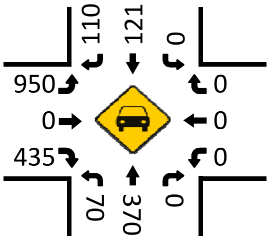
Total Vehicles (AM)



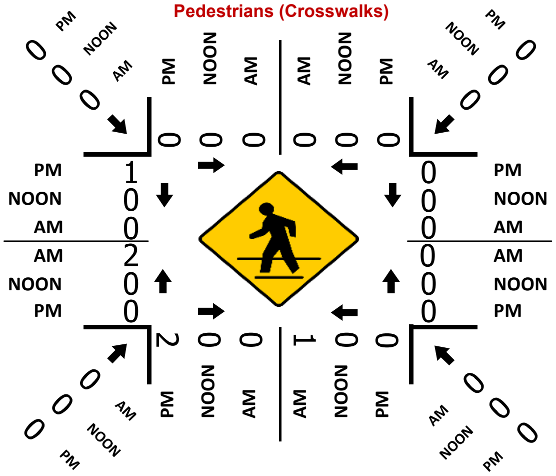
Total Vehicles (Noon)



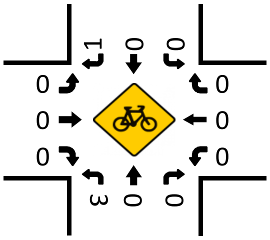
Total Vehicles (PM)



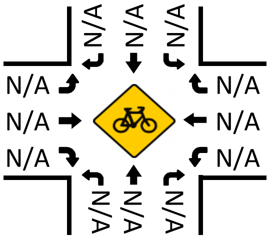
Pedestrians (Crosswalks)



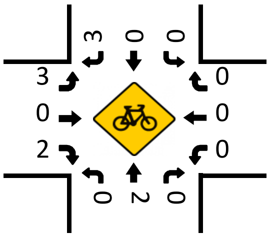
Bikes (AM)



Bikes (NOON)



Bikes (PM)



HCM Intersection Level of Service Reports
Existing Conditions

HCM 6th Signalized Intersection Summary
2: S Campus Dr & East Campus Dr

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	368	910	0	66	1
Future Volume (veh/h)	0	368	910	0	66	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1900	1900
Adj Flow Rate, veh/h	0	391	968	0	70	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	0	0
Cap, veh/h	0	2139	2139	0	167	2
Arrive On Green	0.00	0.60	0.60	0.00	0.10	0.08
Sat Flow, veh/h	0	3741	3741	0	1730	25
Grp Volume(v), veh/h	0	391	968	0	72	0
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1779	0
Q Serve(g_s), s	0.0	1.3	4.0	0.0	1.0	0.0
Cycle Q Clear(g_c), s	0.0	1.3	4.0	0.0	1.0	0.0
Prop In Lane	0.00			0.00	0.97	0.01
Lane Grp Cap(c), veh/h	0	2139	2139	0	172	0
V/C Ratio(X)	0.00	0.18	0.45	0.00	0.42	0.00
Avail Cap(c_a), veh/h	0	4287	4287	0	1308	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	2.4	2.9	0.0	11.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	2.4	3.1	0.0	12.9	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		391	968		72	
Approach Delay, s/veh		2.4	3.1		12.9	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		20.0		6.6		20.0
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		3.3		3.0		6.0
Green Ext Time (p_c), s		2.8		0.1		8.0

Intersection Summary			
HCM 6th Ctrl Delay			3.4
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.

3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	51	118	422	150	542	57	445	267	32	73	526	218
Future Volume (veh/h)	51	118	422	150	542	57	445	267	32	73	526	218
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	124	326	158	571	22	468	281	34	77	554	229
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	580	1523	192	1281	543	555	1102	132	152	661	272
Arrive On Green	0.08	0.31	0.31	0.11	0.34	0.34	0.16	0.34	0.34	0.09	0.27	0.26
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3195	383	1781	2454	1012
Grp Volume(v), veh/h	54	124	326	158	571	22	468	155	160	77	401	382
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1801	1781	1777	1688
Q Serve(g_s), s	3.0	5.1	6.3	9.1	12.5	1.0	13.8	6.6	6.7	4.3	22.4	22.5
Cycle Q Clear(g_c), s	3.0	5.1	6.3	9.1	12.5	1.0	13.8	6.6	6.7	4.3	22.4	22.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.60
Lane Grp Cap(c), veh/h	134	580	1523	192	1281	543	555	613	621	152	478	455
V/C Ratio(X)	0.40	0.21	0.21	0.82	0.45	0.04	0.84	0.25	0.26	0.51	0.84	0.84
Avail Cap(c_a), veh/h	508	641	1625	508	1281	543	986	613	621	508	608	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	26.8	15.8	45.9	26.8	23.0	42.8	24.7	24.8	46.0	36.2	36.6
Incr Delay (d2), s/veh	1.4	0.1	0.1	6.5	1.1	0.1	2.7	0.2	0.2	1.9	7.5	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.3	2.1	4.4	5.8	0.4	5.9	2.7	2.8	1.9	10.2	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	26.9	15.9	52.5	27.9	23.2	45.5	24.9	25.0	47.9	43.8	44.7
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		504			751			783			860	
Approach Delay, s/veh		22.0			33.0			37.2			44.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	40.0	12.9	40.2	15.3	36.6	20.9	32.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	5.0	14.5	6.3	8.7	11.1	8.3	15.8	24.5
Green Ext Time (p_c), s	0.1	3.4	0.1	1.3	0.3	1.7	1.1	2.8

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: S Campus Dr & I-10 EB On Ramp

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	274	160	907	3	0	0
Future Volume (veh/h)	274	160	907	3	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	285	167	945	3		
Peak Hour Factor	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	455	3103	1784	6		
Arrive On Green	0.26	0.87	0.49	0.43		
Sat Flow, veh/h	1781	3647	3727	12		
Grp Volume(v), veh/h	285	167	462	486		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1868		
Q Serve(g_s), s	4.5	0.2	5.6	5.6		
Cycle Q Clear(g_c), s	4.5	0.2	5.6	5.6		
Prop In Lane	1.00			0.01		
Lane Grp Cap(c), veh/h	455	3103	872	917		
V/C Ratio(X)	0.63	0.05	0.53	0.53		
Avail Cap(c_a), veh/h	1885	4368	2184	2297		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.4	0.3	5.5	5.5		
Incr Delay (d2), s/veh	1.4	0.0	0.5	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.7	0.7		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.3	6.0	6.0		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		452	948			
Approach Delay, s/veh		7.6	6.0			
Approach LOS		A	A			

Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		31.6			12.1	19.5
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		2.2			6.5	7.6
Green Ext Time (p_c), s		1.0			0.8	6.0

Intersection Summary						
HCM 6th Ctrl Delay			6.5			
HCM 6th LOS			A			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↱	↱	↰↰	↱
Traffic Volume (veh/h)	6	152	1101	22	15	7
Future Volume (veh/h)	6	152	1101	22	15	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	165	1197	16	16	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	71	2498	3055	863	11	94
Arrive On Green	0.04	0.70	0.54	0.54	0.00	0.00
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	7	165	1197	16	16	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.1	0.5	4.2	0.2	0.1	0.0
Cycle Q Clear(g_c), s	0.1	0.5	4.2	0.2	0.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	71	2498	3055	863	11	94
V/C Ratio(X)	0.10	0.07	0.39	0.02	1.51	0.00
Avail Cap(c_a), veh/h	1626	6529	10309	2912	4025	1913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.6	1.6	4.4	3.5	16.8	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.1	0.0	310.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.4	0.0	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.2	1.6	4.5	3.5	327.1	0.0
LnGrp LOS	B	A	A	A	F	A
Approach Vol, veh/h		172	1213		16	
Approach Delay, s/veh		2.2	4.5		327.1	
Approach LOS		A	A		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.6		6.0	5.3	22.3
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		2.5		2.1	2.1	6.2
Green Ext Time (p_c), s		1.0		0.0	0.0	10.4

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖↗	↗	↖	↶↑	↑	↗
Traffic Volume (veh/h)	93	75	370	160	233	760
Future Volume (veh/h)	93	75	370	160	233	760
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	106	36	301	349	265	781
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	185	85	741	809	809	742
Arrive On Green	0.05	0.05	0.42	0.42	0.42	0.42
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	106	36	301	349	265	781
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	3.0	2.2	12.3	13.2	9.5	43.0
Cycle Q Clear(g_c), s	3.0	2.2	12.3	13.2	9.5	43.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	185	85	741	809	809	742
V/C Ratio(X)	0.57	0.42	0.41	0.43	0.33	1.05
Avail Cap(c_a), veh/h	1482	686	741	809	809	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	47.5	21.2	21.5	20.4	26.1
Incr Delay (d2), s/veh	2.8	3.3	1.7	1.7	1.1	47.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.9	5.4	6.3	4.5	29.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	50.8	22.9	23.2	21.5	74.0
LnGrp LOS	D	D	C	C	C	F
Approach Vol, veh/h	142			650	1046	
Approach Delay, s/veh	50.7			23.0	60.7	
Approach LOS	D			C	E	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		9.4		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		15.2		5.0		45.0
Green Ext Time (p_c), s		3.2		0.4		0.0

Intersection Summary			
HCM 6th Ctrl Delay			46.6
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

2: S Campus Dr & East Campus Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	991	194	0	599	4
Future Volume (veh/h)	0	991	194	0	599	4
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1900	1900
Adj Flow Rate, veh/h	0	1066	209	0	644	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	0	0
Cap, veh/h	0	1625	1625	0	680	4
Arrive On Green	0.00	0.46	0.46	0.00	0.38	0.37
Sat Flow, veh/h	0	3741	3741	0	1766	11
Grp Volume(v), veh/h	0	1066	209	0	649	0
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1780	0
Q Serve(g_s), s	0.0	11.8	1.7	0.0	17.9	0.0
Cycle Q Clear(g_c), s	0.0	11.8	1.7	0.0	17.9	0.0
Prop In Lane	0.00			0.00	0.99	0.01
Lane Grp Cap(c), veh/h	0	1625	1625	0	685	0
V/C Ratio(X)	0.00	0.66	0.13	0.00	0.95	0.00
Avail Cap(c_a), veh/h	0	2244	2244	0	685	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	10.7	7.9	0.0	15.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	22.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	0.5	0.0	9.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	11.2	8.0	0.0	37.5	0.0
LnGrp LOS	A	B	A	A	D	A
Approach Vol, veh/h		1066	209		649	
Approach Delay, s/veh		11.2	8.0		37.5	
Approach LOS		B	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	27.2	23.5	27.2
Change Period (Y+Rc), s	6.0	4.5	6.0
Max Green Setting (Gmax), s	30.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	13.8	19.9	3.7
Green Ext Time (p_c), s	7.4	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	127	313	526	37	204	183	289	654	29	26	143	51
Future Volume (veh/h)	127	313	526	37	204	183	289	654	29	26	143	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	302	392	40	219	86	311	703	31	28	154	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	821	1800	125	1502	636	407	888	39	100	505	174
Arrive On Green	0.11	0.44	0.44	0.07	0.40	0.40	0.12	0.26	0.25	0.06	0.19	0.18
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3467	153	1781	2594	893
Grp Volume(v), veh/h	137	302	392	40	219	86	311	360	374	28	104	105
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1843	1781	1777	1710
Q Serve(g_s), s	6.7	9.7	5.5	1.9	3.3	3.1	7.8	17.0	17.0	1.4	4.5	4.8
Cycle Q Clear(g_c), s	6.7	9.7	5.5	1.9	3.3	3.1	7.8	17.0	17.0	1.4	4.5	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.52
Lane Grp Cap(c), veh/h	192	821	1800	125	1502	636	407	455	472	100	346	333
V/C Ratio(X)	0.71	0.37	0.22	0.32	0.15	0.14	0.77	0.79	0.79	0.28	0.30	0.32
Avail Cap(c_a), veh/h	596	821	1800	596	1502	636	1156	713	740	596	713	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	16.8	9.6	39.6	17.1	17.0	38.4	31.1	31.2	40.6	30.9	31.2
Incr Delay (d2), s/veh	3.6	0.2	0.0	1.1	0.2	0.4	2.3	2.5	2.4	1.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.1	1.6	0.9	1.5	1.1	3.3	7.1	7.3	0.6	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	17.0	9.6	40.7	17.3	17.4	40.6	33.6	33.6	41.7	31.2	31.6
LnGrp LOS	D	B	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		831			345			1045			237	
Approach Delay, s/veh		17.7			20.0			35.7			32.7	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	40.0	9.0	27.0	10.3	43.4	14.5	21.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	8.7	5.3	3.4	19.0	3.9	11.7	9.8	6.8
Green Ext Time (p_c), s	0.3	1.5	0.0	3.0	0.1	2.9	0.7	0.8

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	462	1128	194	12	0	0
Future Volume (veh/h)	462	1128	194	12	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	508	1240	213	13		
Peak Hour Factor	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	723	3051	1060	64		
Arrive On Green	0.41	0.86	0.31	0.25		
Sat Flow, veh/h	1781	3647	3497	206		
Grp Volume(v), veh/h	508	1240	111	115		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1833		
Q Serve(g_s), s	6.7	2.1	1.3	1.3		
Cycle Q Clear(g_c), s	6.7	2.1	1.3	1.3		
Prop In Lane	1.00			0.11		
Lane Grp Cap(c), veh/h	723	3051	553	571		
V/C Ratio(X)	0.70	0.41	0.20	0.20		
Avail Cap(c_a), veh/h	2105	4878	2439	2516		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	7.0	0.4	7.1	7.2		
Incr Delay (d2), s/veh	1.3	0.1	0.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.2	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	0.5	7.3	7.4		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		1748	226			
Approach Delay, s/veh		2.8	7.4			
Approach LOS		A	A			
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		28.3			15.5	12.8
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		4.1			8.7	3.3
Green Ext Time (p_c), s		10.3			1.6	1.2
Intersection Summary						
HCM 6th Ctrl Delay			3.3			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
5: S Campus Dr & Corporate Center Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↱	↱	↰↰	↱
Traffic Volume (veh/h)	1	1157	179	4	231	7
Future Volume (veh/h)	1	1157	179	4	231	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1271	197	2	254	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	33	2076	2659	751	616	369
Arrive On Green	0.02	0.58	0.47	0.47	0.17	0.23
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	1	1271	197	2	254	3
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.0	10.1	0.8	0.0	2.8	0.1
Cycle Q Clear(g_c), s	0.0	10.1	0.8	0.0	2.8	0.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	33	2076	2659	751	616	369
V/C Ratio(X)	0.03	0.61	0.07	0.00	0.41	0.01
Avail Cap(c_a), veh/h	1252	5029	7940	2243	3100	1474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	5.9	6.3	6.1	16.1	12.9
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.2	0.0	1.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.4	6.2	6.3	6.1	16.5	12.9
LnGrp LOS	C	A	A	A	B	B
Approach Vol, veh/h		1272	199		257	
Approach Delay, s/veh		6.2	6.3		16.5	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		29.5		14.2	4.8	24.7
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		12.1		4.8	2.0	2.8
Green Ext Time (p_c), s		11.6		0.9	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Ridgeway St & S Campus Dr

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰	↱	↰	↑	↑	↱
Traffic Volume (veh/h)	950	435	70	370	121	110
Future Volume (veh/h)	950	435	70	370	121	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	1033	237	76	402	132	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1079	499	545	595	595	965
Arrive On Green	0.30	0.30	0.31	0.31	0.31	0.31
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	1033	237	76	402	132	72
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	40.0	16.5	4.3	25.4	7.1	2.6
Cycle Q Clear(g_c), s	40.0	16.5	4.3	25.4	7.1	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1079	499	545	595	595	965
V/C Ratio(X)	0.96	0.47	0.14	0.68	0.22	0.07
Avail Cap(c_a), veh/h	1090	504	545	595	595	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	39.9	35.4	42.7	36.3	11.3
Incr Delay (d2), s/veh	17.8	0.7	0.5	6.1	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	6.6	2.0	13.3	3.6	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	65.9	40.6	35.9	48.7	37.2	11.4
LnGrp LOS	E	D	D	D	D	B
Approach Vol, veh/h	1270			478	204	
Approach Delay, s/veh	61.2			46.7	28.1	
Approach LOS	E			D	C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		46.6		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		27.4		42.0		9.1
Green Ext Time (p_c), s		2.4		0.6		1.0

Intersection Summary	
HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM Intersection Level of Service Reports
Existing Plus Project Conditions

HCM 6th Signalized Intersection Summary
2: S Campus Dr & East Campus Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	368	919	0	75	1
Future Volume (veh/h)	0	368	919	0	75	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1900	1900
Adj Flow Rate, veh/h	0	391	978	0	80	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	0	0
Cap, veh/h	0	2132	2132	0	180	2
Arrive On Green	0.00	0.60	0.60	0.00	0.10	0.09
Sat Flow, veh/h	0	3741	3741	0	1736	22
Grp Volume(v), veh/h	0	391	978	0	82	0
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1780	0
Q Serve(g_s), s	0.0	1.3	4.1	0.0	1.2	0.0
Cycle Q Clear(g_c), s	0.0	1.3	4.1	0.0	1.2	0.0
Prop In Lane	0.00			0.00	0.98	0.01
Lane Grp Cap(c), veh/h	0	2132	2132	0	184	0
V/C Ratio(X)	0.00	0.18	0.46	0.00	0.44	0.00
Avail Cap(c_a), veh/h	0	4213	4213	0	1286	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	2.4	3.0	0.0	11.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	2.5	3.2	0.0	13.0	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		391	978		82	
Approach Delay, s/veh		2.5	3.2		13.0	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		20.2		6.8		20.2
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		3.3		3.2		6.1
Green Ext Time (p_c), s		2.8		0.1		8.1

Intersection Summary			
HCM 6th Ctrl Delay			3.5
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	51	121	422	150	544	60	445	267	32	73	526	218
Future Volume (veh/h)	51	121	422	150	544	60	445	267	32	73	526	218
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	127	326	158	573	23	468	281	34	77	554	229
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	580	1523	192	1281	543	555	1102	132	152	661	272
Arrive On Green	0.08	0.31	0.31	0.11	0.34	0.34	0.16	0.34	0.34	0.09	0.27	0.26
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3195	383	1781	2454	1012
Grp Volume(v), veh/h	54	127	326	158	573	23	468	155	160	77	401	382
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1801	1781	1777	1688
Q Serve(g_s), s	3.0	5.3	6.3	9.1	12.5	1.0	13.8	6.6	6.7	4.3	22.4	22.5
Cycle Q Clear(g_c), s	3.0	5.3	6.3	9.1	12.5	1.0	13.8	6.6	6.7	4.3	22.4	22.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.60
Lane Grp Cap(c), veh/h	134	580	1523	192	1281	543	555	613	621	152	478	455
V/C Ratio(X)	0.40	0.22	0.21	0.82	0.45	0.04	0.84	0.25	0.26	0.51	0.84	0.84
Avail Cap(c_a), veh/h	508	641	1625	508	1281	543	986	613	621	508	608	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	26.8	15.8	45.9	26.8	23.1	42.8	24.7	24.8	46.0	36.2	36.6
Incr Delay (d2), s/veh	1.4	0.1	0.1	6.5	1.1	0.1	2.7	0.2	0.2	1.9	7.5	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.4	2.1	4.4	5.8	0.4	5.9	2.7	2.8	1.9	10.2	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	27.0	15.9	52.5	28.0	23.2	45.5	24.9	25.0	47.9	43.8	44.7
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		507			754			783			860	
Approach Delay, s/veh		22.0			33.0			37.2			44.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	40.0	12.9	40.2	15.3	36.6	20.9	32.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	5.0	14.5	6.3	8.7	11.1	8.3	15.8	24.5
Green Ext Time (p_c), s	0.1	3.4	0.1	1.3	0.3	1.7	1.1	2.8

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	277	166	916	3	0	0
Future Volume (veh/h)	277	166	916	3	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	289	173	954	3		
Peak Hour Factor	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	459	3108	1787	6		
Arrive On Green	0.26	0.87	0.49	0.44		
Sat Flow, veh/h	1781	3647	3727	11		
Grp Volume(v), veh/h	289	173	466	491		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1868		
Q Serve(g_s), s	4.6	0.2	5.8	5.8		
Cycle Q Clear(g_c), s	4.6	0.2	5.8	5.8		
Prop In Lane	1.00			0.01		
Lane Grp Cap(c), veh/h	459	3108	874	919		
V/C Ratio(X)	0.63	0.06	0.53	0.53		
Avail Cap(c_a), veh/h	1864	4320	2160	2271		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.3	5.6	5.6		
Incr Delay (d2), s/veh	1.4	0.0	0.5	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.7	0.8		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.9	0.3	6.1	6.1		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		462	957			
Approach Delay, s/veh		7.6	6.1			
Approach LOS		A	A			

Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		31.9			12.2	19.7
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		2.2			6.6	7.8
Green Ext Time (p_c), s		1.0			0.8	6.1

Intersection Summary						
HCM 6th Ctrl Delay			6.6			
HCM 6th LOS			A			

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰ ↰↱	↱	↰	↑	↑	↱
Traffic Volume (veh/h)	93	81	376	160	233	760
Future Volume (veh/h)	93	81	376	160	233	760
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	106	40	304	353	265	783
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	186	86	741	809	809	742
Arrive On Green	0.05	0.05	0.42	0.42	0.42	0.42
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	106	40	304	353	265	783
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	3.0	2.4	12.4	13.4	9.5	43.0
Cycle Q Clear(g_c), s	3.0	2.4	12.4	13.4	9.5	43.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	186	86	741	809	809	742
V/C Ratio(X)	0.57	0.47	0.41	0.44	0.33	1.06
Avail Cap(c_a), veh/h	1482	686	741	809	809	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	47.6	21.3	21.5	20.4	26.1
Incr Delay (d2), s/veh	2.8	3.9	1.7	1.7	1.1	48.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.1	5.4	6.4	4.5	29.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.6	51.5	22.9	23.3	21.5	74.7
LnGrp LOS	D	D	C	C	C	F
Approach Vol, veh/h	146			657	1048	
Approach Delay, s/veh	50.9			23.1	61.3	
Approach LOS	D			C	E	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		9.4		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		15.4		5.0		45.0
Green Ext Time (p_c), s		3.2		0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
2: S Campus Dr & East Campus Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	991	199	0	611	0
Future Volume (veh/h)	0	991	199	0	611	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1900
Adj Flow Rate, veh/h	0	1066	214	014121140664514368		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	0
Cap, veh/h	0	2054	2054	0	9999	9999
Arrive On Green	0.00	0.58	0.58	0.00	0.17	0.16
Sat Flow, veh/h	0	3741	3741	25106934485112772320768		
Grp Volume(v), veh/h	0	1066	214	014121140664514368		
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1781	1610
Q Serve(g_s), s	0.0	5.8	0.9	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.0	5.8	0.9	0.0	0.0	0.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2054	2054	43026722094806961664		
V/C Ratio(X)	0.00	0.52	0.10	0.00	0.00	0.04
Avail Cap(c_a), veh/h	0	3554	3554	153040196181674646457600		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.1	3.0	0.0	11.0	11.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.3	3.1	0.0	11.0	11.5
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		1066	214	1078635520		
Approach Delay, s/veh		4.3	3.1		11.4	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.5		9.5		22.5
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		7.8		2.2		2.9
Green Ext Time (p_c), s		8.7		0.0		1.4

Intersection Summary			
HCM 6th Ctrl Delay			11.4
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	127	315	526	37	206	187	289	654	29	26	143	51
Future Volume (veh/h)	127	315	526	37	206	187	289	654	29	26	143	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	302	393	40	222	90	311	703	31	28	154	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	821	1800	125	1502	636	407	888	39	100	505	174
Arrive On Green	0.11	0.44	0.44	0.07	0.40	0.40	0.12	0.26	0.25	0.06	0.19	0.18
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3467	153	1781	2594	893
Grp Volume(v), veh/h	137	302	393	40	222	90	311	360	374	28	104	105
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1843	1781	1777	1710
Q Serve(g_s), s	6.7	9.7	5.5	1.9	3.4	3.2	7.8	17.0	17.0	1.4	4.5	4.8
Cycle Q Clear(g_c), s	6.7	9.7	5.5	1.9	3.4	3.2	7.8	17.0	17.0	1.4	4.5	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.52
Lane Grp Cap(c), veh/h	192	821	1800	125	1502	636	407	455	472	100	346	333
V/C Ratio(X)	0.71	0.37	0.22	0.32	0.15	0.14	0.77	0.79	0.79	0.28	0.30	0.32
Avail Cap(c_a), veh/h	596	821	1800	596	1502	636	1156	713	740	596	713	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	16.8	9.6	39.6	17.1	17.0	38.4	31.1	31.2	40.6	30.9	31.2
Incr Delay (d2), s/veh	3.6	0.2	0.0	1.1	0.2	0.5	2.3	2.5	2.4	1.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.1	1.6	0.9	1.5	1.2	3.3	7.1	7.3	0.6	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	17.0	9.6	40.7	17.3	17.5	40.6	33.6	33.6	41.7	31.2	31.6
LnGrp LOS	D	B	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		832			352			1045			237	
Approach Delay, s/veh		17.7			20.0			35.7			32.7	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	40.0	9.0	27.0	10.3	43.4	14.5	21.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	8.7	5.4	3.4	19.0	3.9	11.7	9.8	6.8
Green Ext Time (p_c), s	0.3	1.5	0.0	3.0	0.1	2.9	0.7	0.8

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: S Campus Dr & I-10 EB On Ramp

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	466	1136	199	12	0	0
Future Volume (veh/h)	466	1136	199	12	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	512	1248	219	13		
Peak Hour Factor	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	726	3053	1058	62		
Arrive On Green	0.41	0.86	0.31	0.25		
Sat Flow, veh/h	1781	3647	3503	201		
Grp Volume(v), veh/h	512	1248	114	118		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1834		
Q Serve(g_s), s	6.8	2.2	1.3	1.4		
Cycle Q Clear(g_c), s	6.8	2.2	1.3	1.4		
Prop In Lane	1.00			0.11		
Lane Grp Cap(c), veh/h	726	3053	551	569		
V/C Ratio(X)	0.70	0.41	0.21	0.21		
Avail Cap(c_a), veh/h	2098	4861	2431	2509		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	7.0	0.4	7.2	7.3		
Incr Delay (d2), s/veh	1.3	0.1	0.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.3	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	0.5	7.4	7.5		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		1760	232			
Approach Delay, s/veh		2.8	7.4			
Approach LOS		A	A			

Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		28.4			15.6	12.8
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		4.2			8.8	3.4
Green Ext Time (p_c), s		10.4			1.6	1.2

Intersection Summary						
HCM 6th Ctrl Delay			3.3			
HCM 6th LOS			A			

5: S Campus Dr & Corporate Center Dr

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↱	↱	↰↰	↱
Traffic Volume (veh/h)	1	1165	184	4	231	7
Future Volume (veh/h)	1	1165	184	4	231	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1280	202	2	254	3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	33	2084	2675	756	614	367
Arrive On Green	0.02	0.59	0.48	0.48	0.17	0.23
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	1	1280	202	2	254	3
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.0	10.2	0.9	0.0	2.8	0.1
Cycle Q Clear(g_c), s	0.0	10.2	0.9	0.0	2.8	0.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	33	2084	2675	756	614	367
V/C Ratio(X)	0.03	0.61	0.08	0.00	0.41	0.01
Avail Cap(c_a), veh/h	1245	5000	7894	2230	3082	1465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	5.9	6.2	6.0	16.2	13.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.2	0.0	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	6.2	6.3	6.0	16.7	13.0
LnGrp LOS	C	A	A	A	B	B
Approach Vol, veh/h		1281	204		257	
Approach Delay, s/veh		6.2	6.2		16.6	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		29.8		14.2	4.8	24.9
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		12.2		4.8	2.0	2.9
Green Ext Time (p_c), s		11.7		0.9	0.0	1.3

Intersection Summary						
HCM 6th Ctrl Delay			7.7			
HCM 6th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰↱	↱	↰	⤺↑	↑	↱
Traffic Volume (veh/h)	950	443	75	370	121	110
Future Volume (veh/h)	950	443	75	370	121	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	1033	246	82	402	132	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1079	499	545	595	595	965
Arrive On Green	0.30	0.30	0.31	0.31	0.31	0.31
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	1033	246	82	402	132	72
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	40.0	17.2	4.7	25.4	7.1	2.6
Cycle Q Clear(g_c), s	40.0	17.2	4.7	25.4	7.1	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1079	499	545	595	595	965
V/C Ratio(X)	0.96	0.49	0.15	0.68	0.22	0.07
Avail Cap(c_a), veh/h	1090	504	545	595	595	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	40.1	35.5	42.7	36.3	11.3
Incr Delay (d2), s/veh	17.8	0.8	0.6	6.1	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	6.9	2.2	13.3	3.6	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	65.9	40.9	36.1	48.8	37.2	11.4
LnGrp LOS	E	D	D	D	D	B
Approach Vol, veh/h	1279			484	204	
Approach Delay, s/veh	61.1			46.6	28.1	
Approach LOS	E			D	C	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		46.6		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		27.4		42.0		9.1
Green Ext Time (p_c), s		2.4		0.6		1.0
Intersection Summary						
HCM 6th Ctrl Delay			54.1			
HCM 6th LOS			D			

Notes

User approved volume balancing among the lanes for turning movement.

HCM Intersection Level of Service Reports
Opening Year No Project Conditions

HCM 6th Signalized Intersection Summary
2: S Campus Dr & East Campus Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	413	1073	0	81	1
Future Volume (veh/h)	0	413	1073	0	81	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1900	1900
Adj Flow Rate, veh/h	0	439	1141	0	86	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	0	0
Cap, veh/h	0	2235	2235	0	180	2
Arrive On Green	0.00	0.63	0.63	0.00	0.10	0.09
Sat Flow, veh/h	0	3741	3741	0	1739	20
Grp Volume(v), veh/h	0	439	1141	0	88	0
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1780	0
Q Serve(g_s), s	0.0	1.6	5.2	0.0	1.4	0.0
Cycle Q Clear(g_c), s	0.0	1.6	5.2	0.0	1.4	0.0
Prop In Lane	0.00			0.00	0.98	0.01
Lane Grp Cap(c), veh/h	0	2235	2235	0	184	0
V/C Ratio(X)	0.00	0.20	0.51	0.00	0.48	0.00
Avail Cap(c_a), veh/h	0	3804	3804	0	1161	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	2.3	3.0	0.0	12.6	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	2.4	3.2	0.0	14.6	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		439	1141		88	
Approach Delay, s/veh		2.4	3.2		14.6	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.8		7.1		22.8
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		3.6		3.4		7.2
Green Ext Time (p_c), s		3.2		0.2		9.6

Intersection Summary			
HCM 6th Ctrl Delay			3.6
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.

3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	54	136	448	159	611	131	472	283	34	88	558	231
Future Volume (veh/h)	54	136	448	159	611	131	472	283	34	88	558	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	143	363	167	643	53	497	298	36	93	587	243
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	549	1493	200	1236	524	581	1154	138	154	684	283
Arrive On Green	0.08	0.29	0.29	0.11	0.33	0.33	0.17	0.36	0.35	0.09	0.28	0.27
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3196	383	1781	2452	1013
Grp Volume(v), veh/h	57	143	363	167	643	53	497	165	169	93	425	405
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1801	1781	1777	1688
Q Serve(g_s), s	3.3	6.4	7.5	10.0	15.1	2.5	15.2	7.1	7.2	5.5	24.7	24.8
Cycle Q Clear(g_c), s	3.3	6.4	7.5	10.0	15.1	2.5	15.2	7.1	7.2	5.5	24.7	24.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.60
Lane Grp Cap(c), veh/h	134	549	1493	200	1236	524	581	641	650	154	496	471
V/C Ratio(X)	0.42	0.26	0.24	0.84	0.52	0.10	0.85	0.26	0.26	0.61	0.86	0.86
Avail Cap(c_a), veh/h	491	618	1610	491	1236	524	952	641	650	491	587	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	29.4	17.2	47.4	29.5	25.3	44.0	24.5	24.6	48.0	37.2	37.5
Incr Delay (d2), s/veh	1.6	0.2	0.1	6.7	1.6	0.4	3.4	0.2	0.2	2.8	10.1	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.9	2.6	4.8	7.1	1.0	6.5	2.9	3.0	2.5	11.6	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	29.6	17.3	54.1	31.1	25.7	47.4	24.7	24.8	50.8	47.4	48.3
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		563			863			831			923	
Approach Delay, s/veh		23.7			35.2			38.3			48.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	40.0	13.4	43.3	16.2	36.0	22.3	34.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	5.3	17.1	7.5	9.2	12.0	9.5	17.2	26.8
Green Ext Time (p_c), s	0.1	3.8	0.1	1.4	0.3	1.9	1.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	291	203	1070	39	0	0
Future Volume (veh/h)	291	203	1070	39	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	303	211	1115	41		
Peak Hour Factor	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	456	3175	1855	68		
Arrive On Green	0.26	0.89	0.53	0.48		
Sat Flow, veh/h	1781	3647	3589	129		
Grp Volume(v), veh/h	303	211	567	589		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1847		
Q Serve(g_s), s	5.7	0.3	8.2	8.3		
Cycle Q Clear(g_c), s	5.7	0.3	8.2	8.3		
Prop In Lane	1.00			0.07		
Lane Grp Cap(c), veh/h	456	3175	943	981		
V/C Ratio(X)	0.66	0.07	0.60	0.60		
Avail Cap(c_a), veh/h	1587	3677	1839	1911		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.5	0.2	6.1	6.1		
Incr Delay (d2), s/veh	1.7	0.0	0.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.3	1.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	0.2	6.7	6.7		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		514	1156			
Approach Delay, s/veh		8.5	6.7			
Approach LOS		A	A			

Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		37.5			13.6	23.9
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		2.3			7.7	10.3
Green Ext Time (p_c), s		1.2			0.8	7.8

Intersection Summary						
HCM 6th Ctrl Delay			7.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
5: S Campus Dr & Corporate Center Dr

CHP Pomona TIA
Opening Year AM

	↗	→	←	↖	↘	↙
Movement	**EBL**	**EBT**	**WBT**	**WBR**	**SBL**	**SBR**
Lane Configurations	↰	↑↑	↑↑↱	↱	↰ ↰↱	↱
Traffic Volume (veh/h)	6	161	1179	23	52	7
Future Volume (veh/h)	6	161	1179	23	52	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	175	1282	17	57	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65	2362	2956	835	239	211
Arrive On Green	0.04	0.66	0.53	0.53	0.07	0.00
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	7	175	1282	17	57	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.2	0.7	5.5	0.2	0.6	0.0
Cycle Q Clear(g_c), s	0.2	0.7	5.5	0.2	0.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	65	2362	2956	835	239	211
V/C Ratio(X)	0.11	0.07	0.43	0.02	0.24	0.00
Avail Cap(c_a), veh/h	1384	5560	8778	2480	3427	1629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.4	2.3	5.7	4.5	17.5	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.9	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.1	2.4	5.8	4.5	18.0	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		182	1299		57	
Approach Delay, s/veh		3.0	5.8		18.0	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.3		9.2	5.4	24.8
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		2.7		2.6	2.2	7.5
Green Ext Time (p_c), s		1.1		0.2	0.0	11.5

Intersection Summary				
HCM 6th Ctrl Delay			5.9	
HCM 6th LOS			A	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰	↱	↰	↰↑	↑	↱
Traffic Volume (veh/h)	99	116	404	170	247	807
Future Volume (veh/h)	99	116	404	170	247	807
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	122	61	326	379	281	851
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	216	100	734	802	802	749
Arrive On Green	0.06	0.06	0.41	0.41	0.41	0.41
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	122	61	326	379	281	851
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	3.5	3.8	13.7	14.8	10.4	43.0
Cycle Q Clear(g_c), s	3.5	3.8	13.7	14.8	10.4	43.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	216	100	734	802	802	749
V/C Ratio(X)	0.57	0.61	0.44	0.47	0.35	1.14
Avail Cap(c_a), veh/h	1468	679	734	802	802	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	47.8	22.1	22.4	21.1	25.8
Incr Delay (d2), s/veh	2.3	5.9	1.9	2.0	1.2	77.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.7	6.0	7.1	4.9	35.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.0	53.7	24.0	24.4	22.3	102.8
LnGrp LOS	D	D	C	C	C	F
Approach Vol, veh/h	183			705	1132	
Approach Delay, s/veh	51.2			24.2	82.8	
Approach LOS	D			C	F	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		10.3		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		16.8		5.8		45.0
Green Ext Time (p_c), s		3.5		0.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	59.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	1124	269	0	672	0
Future Volume (veh/h)	0	1124	269	0	672	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1900
Adj Flow Rate, veh/h	0	1196	286	0	141211406	4514368
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	0
Cap, veh/h	0	2146	2146	0	9999	9999
Arrive On Green	0.00	0.60	0.60	0.00	0.16	0.15
Sat Flow, veh/h	0	3741	3741	251	06934475427	1890944
Grp Volume(v), veh/h	0	1196	286	0	141211406	4514368
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1781	1610
Q Serve(g_s), s	0.0	6.8	1.2	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	6.8	1.2	0.0	0.0	0.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2146	2146	40	604606952	85879040
V/C Ratio(X)	0.00	0.56	0.13	0.00	0.00	0.02
Avail Cap(c_a), veh/h	0	3336	3336	143	96176384	426340352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.0	2.9	0.0	12.0	12.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.3	2.9	0.0	12.0	12.4
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		1196	286		1078635520	
Approach Delay, s/veh		4.3	2.9		12.4	
Approach LOS		A	A		B	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		24.6		9.5		24.6
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		8.8		2.1		3.2
Green Ext Time (p_c), s		9.7		0.0		2.0

Intersection Summary			
HCM 6th Ctrl Delay			12.4
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	135	368	558	39	236	237	307	694	31	64	152	54
Future Volume (veh/h)	135	368	558	39	236	237	307	694	31	64	152	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	318	426	41	248	109	323	731	33	67	160	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	772	1722	124	1420	602	414	904	41	156	594	204
Arrive On Green	0.10	0.41	0.41	0.07	0.38	0.38	0.12	0.26	0.25	0.09	0.23	0.22
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3463	156	1781	2595	892
Grp Volume(v), veh/h	142	318	426	41	248	109	323	375	389	67	108	109
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1842	1781	1777	1710
Q Serve(g_s), s	7.4	11.4	6.7	2.1	4.2	4.3	8.6	18.7	18.8	3.4	4.7	5.0
Cycle Q Clear(g_c), s	7.4	11.4	6.7	2.1	4.2	4.3	8.6	18.7	18.8	3.4	4.7	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.52
Lane Grp Cap(c), veh/h	183	772	1722	124	1420	602	414	464	481	156	407	391
V/C Ratio(X)	0.77	0.41	0.25	0.33	0.17	0.18	0.78	0.81	0.81	0.43	0.26	0.28
Avail Cap(c_a), veh/h	564	772	1722	564	1420	602	1093	675	699	564	675	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	19.7	11.4	42.0	19.5	19.6	40.5	32.8	32.8	41.0	30.0	30.3
Incr Delay (d2), s/veh	5.1	0.3	0.1	1.1	0.3	0.7	2.4	4.0	3.9	1.4	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.0	2.1	1.0	1.9	1.6	3.6	8.1	8.4	1.5	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	19.9	11.5	43.1	19.8	20.2	42.9	36.8	36.7	42.4	30.3	30.6
LnGrp LOS	D	B	B	D	B	C	D	D	D	D	C	C
Approach Vol, veh/h		886			398			1087			284	
Approach Delay, s/veh		20.1			22.3			38.6			33.3	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	40.0	12.3	28.8	10.6	43.2	15.4	25.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	9.4	6.3	5.4	20.8	4.1	13.4	10.6	7.0
Green Ext Time (p_c), s	0.3	1.7	0.1	3.0	0.1	3.1	0.8	0.9

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: S Campus Dr & I-10 EB On Ramp

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	490	1305	269	34	0	0
Future Volume (veh/h)	490	1305	269	34	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	510	1359	280	35		
Peak Hour Factor	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	724	3052	989	122		
Arrive On Green	0.41	0.86	0.31	0.25		
Sat Flow, veh/h	1781	3647	3276	394		
Grp Volume(v), veh/h	510	1359	155	160		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1799		
Q Serve(g_s), s	6.7	2.5	1.9	1.9		
Cycle Q Clear(g_c), s	6.7	2.5	1.9	1.9		
Prop In Lane	1.00			0.22		
Lane Grp Cap(c), veh/h	724	3052	552	559		
V/C Ratio(X)	0.70	0.45	0.28	0.29		
Avail Cap(c_a), veh/h	2101	4869	2435	2466		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	7.0	0.5	7.4	7.5		
Incr Delay (d2), s/veh	1.3	0.1	0.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.4	0.4		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	0.6	7.6	7.8		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		1869	315			
Approach Delay, s/veh		2.7	7.7			
Approach LOS		A	A			
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		28.3			15.5	12.8
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		4.5			8.7	3.9
Green Ext Time (p_c), s		11.7			1.6	1.7
Intersection Summary						
HCM 6th Ctrl Delay			3.4			
HCM 6th LOS			A			

5: S Campus Dr & Corporate Center Dr

Opening Year PM

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↱	↱	↰Y	↱
Traffic Volume (veh/h)	1	1228	226	4	265	7
Future Volume (veh/h)	1	1228	226	4	265	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1349	248	2	291	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	32	2140	2792	789	599	356
Arrive On Green	0.02	0.60	0.50	0.50	0.17	0.00
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	1	1349	248	2	291	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.0	11.2	1.1	0.0	3.4	0.0
Cycle Q Clear(g_c), s	0.0	11.2	1.1	0.0	3.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	32	2140	2792	789	599	356
V/C Ratio(X)	0.03	0.63	0.09	0.00	0.49	0.00
Avail Cap(c_a), veh/h	1185	4759	7515	2123	2934	1395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.3	5.9	6.1	5.8	17.4	0.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.2	0.0	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.7	6.2	6.1	5.8	18.0	0.0
LnGrp LOS	C	A	A	A	B	A
Approach Vol, veh/h		1350	250		291	
Approach Delay, s/veh		6.2	6.1		18.0	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.8		14.4	4.8	27.0
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		13.2		5.4	2.0	3.1
Green Ext Time (p_c), s		12.7		1.1	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

6: Ridgeway St & S Campus Dr

Opening Year PM

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰	↱	↰	↰↑	↑	↱
Traffic Volume (veh/h)	1008	482	110	393	128	117
Future Volume (veh/h)	1008	482	110	393	128	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	1145	291	125	447	145	78
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1086	503	543	593	593	967
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	1145	291	125	447	145	78
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	43.0	21.0	7.4	29.2	7.9	2.8
Cycle Q Clear(g_c), s	43.0	21.0	7.4	29.2	7.9	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1086	503	543	593	593	967
V/C Ratio(X)	1.05	0.58	0.23	0.75	0.24	0.08
Avail Cap(c_a), veh/h	1086	503	543	593	593	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	41.4	36.6	44.2	36.8	11.3
Incr Delay (d2), s/veh	42.7	1.7	1.0	8.6	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.9	8.6	3.4	15.5	4.0	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	91.7	43.0	37.6	52.8	37.8	11.4
LnGrp LOS	F	D	D	D	D	B
Approach Vol, veh/h	1436			572	223	
Approach Delay, s/veh	81.8			49.5	28.6	
Approach LOS	F			D	C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		47.0		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		31.2		45.0		9.9
Green Ext Time (p_c), s		2.5		0.0		1.1

Intersection Summary	
HCM 6th Ctrl Delay	68.2
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM Intersection Level of Service Reports
Opening Year Plus Project Conditions

2: S Campus Dr & East Campus Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	413	1082	0	90	1
Future Volume (veh/h)	0	413	1082	0	90	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1900	1900
Adj Flow Rate, veh/h	0	439	1151	0	96	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	0	0
Cap, veh/h	0	2229	2229	0	190	2
Arrive On Green	0.00	0.63	0.63	0.00	0.11	0.09
Sat Flow, veh/h	0	3741	3741	0	1744	18
Grp Volume(v), veh/h	0	439	1151	0	98	0
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1780	0
Q Serve(g_s), s	0.0	1.6	5.4	0.0	1.6	0.0
Cycle Q Clear(g_c), s	0.0	1.6	5.4	0.0	1.6	0.0
Prop In Lane	0.00			0.00	0.98	0.01
Lane Grp Cap(c), veh/h	0	2229	2229	0	194	0
V/C Ratio(X)	0.00	0.20	0.52	0.00	0.50	0.00
Avail Cap(c_a), veh/h	0	3746	3746	0	1143	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	2.4	3.1	0.0	12.8	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	2.5	3.3	0.0	14.8	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		439	1151		98	
Approach Delay, s/veh		2.5	3.3		14.8	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		23.0		7.3		23.0
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		3.6		3.6		7.4
Green Ext Time (p_c), s		3.2		0.2		9.6

Intersection Summary			
HCM 6th Ctrl Delay			3.8
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	54	139	448	159	613	134	472	283	34	88	558	231
Future Volume (veh/h)	54	139	448	159	613	134	472	283	34	88	558	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	146	363	167	645	54	497	298	36	93	587	243
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	549	1493	200	1236	524	581	1154	138	154	684	283
Arrive On Green	0.08	0.29	0.29	0.11	0.33	0.33	0.17	0.36	0.35	0.09	0.28	0.27
Sat Flow, veh/h	1781	1870	3170	1781	3741	1585	3456	3196	383	1781	2452	1013
Grp Volume(v), veh/h	57	146	363	167	645	54	497	165	169	93	425	405
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1801	1781	1777	1688
Q Serve(g_s), s	3.3	6.5	7.5	10.0	15.2	2.6	15.2	7.1	7.2	5.5	24.7	24.8
Cycle Q Clear(g_c), s	3.3	6.5	7.5	10.0	15.2	2.6	15.2	7.1	7.2	5.5	24.7	24.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.60
Lane Grp Cap(c), veh/h	134	549	1493	200	1236	524	581	641	650	154	496	471
V/C Ratio(X)	0.42	0.27	0.24	0.84	0.52	0.10	0.85	0.26	0.26	0.61	0.86	0.86
Avail Cap(c_a), veh/h	491	618	1610	491	1236	524	952	641	650	491	587	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	29.5	17.2	47.4	29.5	25.3	44.0	24.5	24.6	48.0	37.2	37.5
Incr Delay (d2), s/veh	1.6	0.2	0.1	6.7	1.6	0.4	3.4	0.2	0.2	2.8	10.1	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.0	2.6	4.8	7.1	1.0	6.5	2.9	3.0	2.5	11.6	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	29.7	17.3	54.1	31.1	25.7	47.4	24.7	24.8	50.8	47.4	48.3
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		566			866			831			923	
Approach Delay, s/veh		23.7			35.2			38.3			48.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	40.0	13.4	43.3	16.2	36.0	22.3	34.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	5.3	17.2	7.5	9.2	12.0	9.5	17.2	26.8
Green Ext Time (p_c), s	0.1	3.8	0.1	1.4	0.3	1.9	1.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	294	209	1079	39	0	0
Future Volume (veh/h)	294	209	1079	39	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	306	218	1124	41		
Peak Hour Factor	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	458	3178	1859	68		
Arrive On Green	0.26	0.89	0.53	0.48		
Sat Flow, veh/h	1781	3647	3590	128		
Grp Volume(v), veh/h	306	218	571	594		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1847		
Q Serve(g_s), s	5.8	0.3	8.4	8.4		
Cycle Q Clear(g_c), s	5.8	0.3	8.4	8.4		
Prop In Lane	1.00			0.07		
Lane Grp Cap(c), veh/h	458	3178	945	982		
V/C Ratio(X)	0.67	0.07	0.60	0.60		
Avail Cap(c_a), veh/h	1571	3641	1820	1893		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.6	0.2	6.1	6.2		
Incr Delay (d2), s/veh	1.7	0.0	0.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.3	1.4		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.3	0.2	6.7	6.8		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		524	1165			
Approach Delay, s/veh		8.5	6.8			
Approach LOS		A	A			
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		37.9			13.7	24.1
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		2.3			7.8	10.4
Green Ext Time (p_c), s		1.3			0.8	7.9
Intersection Summary						
HCM 6th Ctrl Delay			7.3			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
5: S Campus Dr & Corporate Center Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↱	↱	↰↰	↱
Traffic Volume (veh/h)	6	167	1188	23	52	7
Future Volume (veh/h)	6	167	1188	23	52	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	182	1291	17	57	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65	2366	2967	838	239	210
Arrive On Green	0.04	0.67	0.53	0.53	0.07	0.00
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	7	182	1291	17	57	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.2	0.7	5.6	0.2	0.6	0.0
Cycle Q Clear(g_c), s	0.2	0.7	5.6	0.2	0.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	65	2366	2967	838	239	210
V/C Ratio(X)	0.11	0.08	0.44	0.02	0.24	0.00
Avail Cap(c_a), veh/h	1377	5532	8734	2467	3410	1621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.5	2.3	5.7	4.5	17.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.9	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.2	2.3	5.8	4.5	18.1	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		189	1308		57	
Approach Delay, s/veh		3.0	5.8		18.1	
Approach LOS		A	A		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.4		9.3	5.4	25.0
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		2.7		2.6	2.2	7.6
Green Ext Time (p_c), s		1.1		0.2	0.0	11.6

Intersection Summary		
HCM 6th Ctrl Delay		5.9
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

6: Ridgeway St & S Campus Dr

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰ ↰↱	↱	↰	↶↑	↑	↱
Traffic Volume (veh/h)	99	122	410	170	247	807
Future Volume (veh/h)	99	122	410	170	247	807
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	124	62	330	384	281	853
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	218	101	734	801	801	750
Arrive On Green	0.06	0.06	0.41	0.41	0.41	0.41
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	124	62	330	384	281	853
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	3.5	3.8	14.0	15.1	10.4	43.0
Cycle Q Clear(g_c), s	3.5	3.8	14.0	15.1	10.4	43.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	218	101	734	801	801	750
V/C Ratio(X)	0.57	0.61	0.45	0.48	0.35	1.14
Avail Cap(c_a), veh/h	1467	679	734	801	801	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	47.8	22.2	22.5	21.1	25.8
Incr Delay (d2), s/veh	2.3	5.9	2.0	2.0	1.2	77.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.7	6.1	7.2	4.9	35.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.0	53.7	24.1	24.5	22.3	103.4
LnGrp LOS	D	D	C	C	C	F
Approach Vol, veh/h	186			714	1134	
Approach Delay, s/veh	51.2			24.4	83.3	
Approach LOS	D			C	F	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		10.4		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		17.1		5.8		45.0
Green Ext Time (p_c), s		3.5		0.6		0.0
Intersection Summary						
HCM 6th Ctrl Delay			59.7			
HCM 6th LOS			E			

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1124	274	0	684	0
Future Volume (veh/h)	0	1124	274	0	684	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1900
Adj Flow Rate, veh/h	0	1209	295			014121140864514368
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	0	2	0
Cap, veh/h	0	2155	2155	0	9999	9999
Arrive On Green	0.00	0.61	0.61	0.00	0.16	0.15
Sat Flow, veh/h	0	3741	3741			2510693456641287154688
Grp Volume(v), veh/h	0	1209	295			014121140864514368
Grp Sat Flow(s),veh/h/ln	0	1777	1777	0	1781	1610
Q Serve(g_s), s	0.0	7.0	1.2	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	7.0	1.2	0.0	0.0	0.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2155	2155			40035788825076007168
V/C Ratio(X)	0.00	0.56	0.14	0.00	0.00	0.01
Avail Cap(c_a), veh/h	0	3315	3315			14300870351287088858368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.0	2.9	0.0	12.1	12.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.3	2.9	0.0	12.1	12.5
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		1209	295		1078635520	
Approach Delay, s/veh		4.3	2.9		12.5	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		24.8		9.5		24.8
Change Period (Y+Rc), s		6.0		4.5		6.0
Max Green Setting (Gmax), s		30.0		19.0		30.0
Max Q Clear Time (g_c+I1), s		9.0		2.1		3.2
Green Ext Time (p_c), s		9.8		0.0		2.1

Intersection Summary		
HCM 6th Ctrl Delay		12.5
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Campus Dr & Kellogg Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↱	↱	↰↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	135	370	558	39	238	241	307	694	31	64	152	54
Future Volume (veh/h)	135	370	558	39	238	241	307	694	31	64	152	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	145	570	256	42	256	107	330	746	33	69	163	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1531	858	125	1411	598	421	918	41	157	600	206
Arrive On Green	0.10	0.41	0.41	0.07	0.38	0.38	0.12	0.26	0.25	0.09	0.23	0.22
Sat Flow, veh/h	1781	3741	1585	1781	3741	1585	3456	3466	153	1781	2596	891
Grp Volume(v), veh/h	145	570	256	42	256	107	330	382	397	69	110	111
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1843	1781	1777	1710
Q Serve(g_s), s	7.6	10.1	8.4	2.1	4.4	4.3	8.9	19.2	19.3	3.5	4.8	5.1
Cycle Q Clear(g_c), s	7.6	10.1	8.4	2.1	4.4	4.3	8.9	19.2	19.3	3.5	4.8	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.52
Lane Grp Cap(c), veh/h	183	1531	858	125	1411	598	421	471	488	157	411	395
V/C Ratio(X)	0.79	0.37	0.30	0.34	0.18	0.18	0.78	0.81	0.81	0.44	0.27	0.28
Avail Cap(c_a), veh/h	560	1531	858	560	1411	598	1086	670	695	560	670	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	19.7	12.0	42.3	19.9	19.9	40.7	32.9	32.9	41.3	30.1	30.4
Incr Delay (d2), s/veh	5.7	0.1	0.1	1.2	0.3	0.7	2.4	4.4	4.3	1.4	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	4.4	2.7	1.0	2.0	1.6	3.7	8.3	8.6	1.5	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	19.8	12.1	43.4	20.2	20.5	43.1	37.3	37.2	42.8	30.3	30.7
LnGrp LOS	D	B	B	D	C	C	D	D	D	D	C	C
Approach Vol, veh/h		971			405			1109			290	
Approach Delay, s/veh		21.9			22.7			39.0			33.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	40.0	12.4	29.3	10.7	43.1	15.6	26.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	9.6	6.4	5.5	21.3	4.1	12.1	10.9	7.1
Green Ext Time (p_c), s	0.3	1.7	0.1	3.0	0.1	4.2	0.8	0.9

Intersection Summary			
HCM 6th Ctrl Delay			30.0
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: S Campus Dr & I-10 EB On Ramp

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱			
Traffic Volume (veh/h)	494	1313	274	34	0	0
Future Volume (veh/h)	494	1313	274	34	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	543	1443	301	37		
Peak Hour Factor	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	754	3065	964	117		
Arrive On Green	0.42	0.86	0.30	0.24		
Sat Flow, veh/h	1781	3647	3282	388		
Grp Volume(v), veh/h	543	1443	167	171		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1800		
Q Serve(g_s), s	7.4	2.7	2.1	2.2		
Cycle Q Clear(g_c), s	7.4	2.7	2.1	2.2		
Prop In Lane	1.00			0.22		
Lane Grp Cap(c), veh/h	754	3065	537	544		
V/C Ratio(X)	0.72	0.47	0.31	0.32		
Avail Cap(c_a), veh/h	2043	4735	2368	2399		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	7.0	0.5	7.8	8.0		
Incr Delay (d2), s/veh	1.3	0.1	0.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.4	0.5		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.3	0.6	8.1	8.3		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		1986	338			
Approach Delay, s/veh		2.7	8.2			
Approach LOS		A	A			
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		29.1			16.3	12.8
Change Period (Y+Rc), s		5.8			5.4	5.8
Max Green Setting (Gmax), s		37.0			32.0	37.0
Max Q Clear Time (g_c+I1), s		4.7			9.4	4.2
Green Ext Time (p_c), s		12.8			1.7	1.8
Intersection Summary						
HCM 6th Ctrl Delay			3.5			
HCM 6th LOS			A			

5: S Campus Dr & Corporate Center Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↱	↱	↰↰	↱
Traffic Volume (veh/h)	1	1236	231	4	265	7
Future Volume (veh/h)	1	1236	231	4	265	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1358	254	2	291	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	32	2147	2807	793	596	354
Arrive On Green	0.02	0.60	0.50	0.50	0.17	0.22
Sat Flow, veh/h	1781	3647	5611	1585	3563	1585
Grp Volume(v), veh/h	1	1358	254	2	291	1
Grp Sat Flow(s),veh/h/ln	1781	1777	1870	1585	1781	1585
Q Serve(g_s), s	0.0	11.4	1.1	0.0	3.4	0.0
Cycle Q Clear(g_c), s	0.0	11.4	1.1	0.0	3.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	32	2147	2807	793	596	354
V/C Ratio(X)	0.03	0.63	0.09	0.00	0.49	0.00
Avail Cap(c_a), veh/h	1178	4732	7471	2110	2917	1387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	5.9	6.1	5.8	17.5	14.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.3	0.0	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.8	6.2	6.1	5.8	18.1	14.0
LnGrp LOS	C	A	A	A	B	B
Approach Vol, veh/h		1359	256		292	
Approach Delay, s/veh		6.2	6.1		18.1	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.0		14.4	4.8	27.2
Change Period (Y+Rc), s		5.8		4.6	* 4.7	5.8
Max Green Setting (Gmax), s		60.0		40.0	* 30	60.0
Max Q Clear Time (g_c+I1), s		13.4		5.4	2.0	3.1
Green Ext Time (p_c), s		12.9		1.1	0.0	1.7

Intersection Summary			
HCM 6th Ctrl Delay			8.0
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Ridgeway St & S Campus Dr

CHP Pomona TIA
Opening Year Plus Project PM

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖↗	↗	↖	↰↑	↑	↗
Traffic Volume (veh/h)	1008	490	115	393	128	117
Future Volume (veh/h)	1008	490	115	393	128	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	1096	283	125	427	139	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1086	503	543	593	593	967
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	1096	283	125	427	139	77
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	43.0	20.3	7.4	27.6	7.5	2.8
Cycle Q Clear(g_c), s	43.0	20.3	7.4	27.6	7.5	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1086	503	543	593	593	967
V/C Ratio(X)	1.01	0.56	0.23	0.72	0.23	0.08
Avail Cap(c_a), veh/h	1086	503	543	593	593	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	41.1	36.6	43.6	36.7	11.3
Incr Delay (d2), s/veh	29.5	1.4	1.0	7.4	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.9	8.3	3.4	14.5	3.8	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	78.5	42.6	37.6	51.0	37.6	11.4
LnGrp LOS	F	D	D	D	D	B
Approach Vol, veh/h	1379			552	216	
Approach Delay, s/veh	71.1			48.0	28.3	
Approach LOS	E			D	C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		47.0		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		43.0		43.0
Max Q Clear Time (g_c+I1), s		29.6		45.0		9.5
Green Ext Time (p_c), s		2.5		0.0		1.1

Intersection Summary			
HCM 6th Ctrl Delay			60.8
HCM 6th LOS			E

Notes

User approved volume balancing among the lanes for turning movement.

HCM Intersection Level of Service Reports
Opening Year Plus Project Plus Mitigation Conditions

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰	↱	↰	↰↑	↑	↱
Traffic Volume (veh/h)	99	122	410	170	247	807
Future Volume (veh/h)	99	122	410	170	247	807
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1945	1945	1870
Adj Flow Rate, veh/h	124	62	330	384	281	853
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	258	120	542	591	858	814
Arrive On Green	0.07	0.07	0.30	0.30	0.44	0.44
Sat Flow, veh/h	3563	1648	1781	1945	1945	1585
Grp Volume(v), veh/h	124	62	330	384	281	853
Grp Sat Flow(s),veh/h/ln	1781	1648	1781	1945	1945	1585
Q Serve(g_s), s	2.2	2.4	10.4	11.3	6.2	29.0
Cycle Q Clear(g_c), s	2.2	2.4	10.4	11.3	6.2	29.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	258	120	542	591	858	814
V/C Ratio(X)	0.48	0.52	0.61	0.65	0.33	1.05
Avail Cap(c_a), veh/h	1571	727	542	591	858	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	29.4	19.5	19.8	12.0	14.8
Incr Delay (d2), s/veh	1.4	3.4	5.0	5.4	1.0	44.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	4.7	5.6	2.6	22.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.7	32.8	24.6	25.3	13.0	59.7
LnGrp LOS	C	C	C	C	B	F
Approach Vol, veh/h	186			714	1134	
Approach Delay, s/veh	31.4			25.0	48.1	
Approach LOS	C			C	D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		24.0		8.8		33.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		20.0		29.0		29.0
Max Q Clear Time (g_c+I1), s		13.3		4.4		31.0
Green Ext Time (p_c), s		2.0		0.6		0.0

Intersection Summary			
HCM 6th Ctrl Delay			38.5
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Related Projects

RELATED PROJECTS

Project Description	Address	Land Use	Land Use Type	ITE Code	Size	Units	Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
CUP to develop 24 condominiums. See TRACTMAP-11125-2018.	1626 W Mission Boulevard	Residential	Multi-family Low Rise (Adj. Street, 7-9 A, 4-6 P)	220	24	DUs	176	3	8	11	8	5	13
Construction of four new duplex buildings, total of eight units. 8 lots proposed.	1561 Via Estrella	Residential	Single-Family Detached (Adj. Street, 7-9 A, 4-6 P)	220	8	DUs	59	1	3	4	3	1	4
Request to develop 299 multi-family residential units, and constructing a shared-use parking structure. Request to demolish the existing commercial building and develop an additional 205 multi-family residential units. The maximum number of units anticipated is 504 multi-family residential units.	901 Corporate Center Drive	Residential	Multi-family Low Rise (Adj. Street, 7-9 A, 4-6 P)	220	504	DUs	3689	53	179	232	178	104	282
						Total	**3,924**	**57**	**190**	**247**	**189**	**110**	**299**

Appendix H

Mitigation, Monitoring and Reporting Plan

MITIGATION MONITORING AND REPORTING PROGRAM SUMMARY TABLE

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in the California Highway Patrol (CHP) Baldwin Park Office Replacement Project Initial Study/Mitigated Negative Declaration (IS/MND). For each mitigation measure, this table identifies monitoring and reporting actions that shall be carried out, the party responsible for implementing these actions, and the monitoring schedule. This table also includes a column where responsible parties can check off monitoring and reporting actions as they are completed. It is the responsibility of the Contractor to ensure that actions required for all of the mitigation measures listed herein are included in the project plans and specifications. It is the responsibility of the State to review and confirm that all of the mitigation measure actions described herein are in the project plans and specifications.

Acronyms and Abbreviations

Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CHP	California Highway Patrol
CRHR	California Register of Historical Resources
DGS	California Department of General Services
IS/MND	initial study/mitigated negative declaration
LOS	level of service
MLD	Most Likely Descendant
MMRP	mitigation monitoring and reporting program
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
USFWS	U.S. Fish and Wildlife Service

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Mitigation Measure		Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
Biological Resources					
BIO-1	**Conduct Preconstruction Surveys for Nesting Birds, and Establish Non-Disturbance Buffer Areas** To the extent feasible, all vegetation removal shall occur between September 1 and January 14, which is outside the bird/raptor nesting season, to avoid potential impacts on nesting birds. If construction activities (including staging and vegetation removal) will occur during the nesting season (January 15 through August 31), the Project proponent shall retain a qualified wildlife biologist to conduct focused surveys for active bird nests on the Project site and also within the utility connection and road improvement areas no more than 7 days before initiation of construction activities. The surveys should also encompass a 250-foot buffer (where it is feasible) around the Project site and utility connection and road improvement areas. If no work occurs for a period of 5 days during the nesting season, surveys must be performed before work within 250 feet of suitable nesting substrate is resumed. If the survey indicates that no active nests are present, no further mitigation shall be required. If an active bird or raptor nest is located during the preconstruction surveys, a qualified biologist shall establish appropriate species-specific non-disturbance buffer zones in consultation with USFWS and/or CDFW. No Project activity shall commence within the non-disturbance buffer until the qualified biologist confirms that the nest is no longer active.	1. N/A 2. Provide the State with advance notice of construction schedule and anticipated start date. Support site access for qualified biologist. Do not initiate construction activities until receiving direction from the State. 3. Inform the State if no work occurs for a period of 5 or more days during the nesting season, and follow Step #4. 4. Halt or do not initiate construction activities until authorization received from the State (based on nesting bird survey results).	1. Retain a qualified biologist to conduct pre-construction surveys. 2. Ensure qualified biologist conducts pre-construction surveys of construction work areas (including project site, road improvement areas, and utility connection areas) and 250-foot buffer (where feasible) within 7 days before construction activity. 3. If no construction work occurs for a period of 5 or more days during the nesting season, ensure that the qualified biologist performs	1. Prior to construction 2. Prior to construction 3. During construction 4. During construction	

Mitigation Measure		Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
			surveys before work is resumed. 4. If a nest is found, authorize construction activities to proceed only if a qualified biologist has confirmed that the young have fledged or that any nests located in the buffer are no longer active.		
BIO-2a	**Perform Preconstruction Bat Survey** The Project proponent shall retain a qualified bat biologist to conduct a preconstruction survey within 60 days prior to construction to assess potential bat habitat that would be disturbed during construction. The survey will consist of a daytime pedestrian survey to inspect for indications of bat use (e.g., occupancy, guano, staining, smells, or sounds) and a night roost/emergence survey. If the bat biologist determines that any of the vacant structures are occupied by special-status bats, or are likely to be used as bat maternity roosts, and may be affected by construction, then the Project proponent shall implement Mitigation Measure BIO-2b and, if necessary, Mitigation Measure BIO-2c.	1. N/A 2. Provide the State with advance notice of construction schedule and anticipated start date. Support site access for qualified biologist. Do not initiate construction activities until given authorization from the State. 3. Do not initiate construction	1. Retain a qualified bat biologist to conduct pre-construction surveys. 2. Ensure that the qualified bat biologist conducts a daytime pedestrian survey and a night roost/emergence survey within 60 days prior to	1. Prior to construction 2. Prior to construction 3. Prior to construction 4. Prior to construction	

Mitigation Measure		Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
		activities until authorization received from the State (based on bat survey results). 4. See step 3.	construction activities. 3. Authorize construction if the qualified biologist confirms no presence of bats. If bats are found, follow step 4. 4. Ensure that Mitigation Measures BIO-2b and 2c (if necessary) are implemented if bats occupy the vacant structures, or if structures are likely used by maternity roosts and may be affected by construction.		
BIO-2b	**Avoid and Minimize Impacts on Bats Roosting in Structures** The Project proponent shall avoid impacts during construction and operation on all occupied bat roosts at the Project site to the greatest extent feasible. If roosts must be removed, demolition or removal of structures shall be preceded by either humane eviction, phased	1. Coordinate with the State to determine if bat roosts can be avoided. 2. Do not proceed with removal of structures until	1. The State will coordinate with the Contractor to determine if bat roosts can be avoided.	1. Prior to construction 2. Prior to construction 3. Prior to construction	

	dismantling, and/or deterrent methods to prevent direct mortality of non-volant (not yet able to fly) young during maternity season, or adults and juveniles during winter months when in torpor. A plan detailing the methods and specifications for partial dismantling and/or deterrent measures for each structure, specific to the bat species observed during the preconstruction surveys, will be prepared by a qualified bat biologist. The plan will be submitted to CDFW for approval prior to implementation. Humane bat eviction and/or partial dismantling of occupied buildings shall be conducted during seasonal periods of bat activity, which are typically between March 1 (or after evening temperatures rise above 45°F and/or no more than ½ inch of rainfall within 24 hours occurs) and April 15, or between August 31 and October 15 (or before evening temperatures fall below 45°F and/or more than ½ inch of rainfall within 24 hours occurs) (Wildlife Research and Associates 2015). If roosts are identified that cannot be avoided or it is determined that construction activities or site development may cause roost abandonment, the Project proponent shall implement Mitigation Measure BIO-2c.	receiving authorization from the State. 3. N/A 4. N/A 5. Proceed with construction after receiving authorization from the State.	2. If roosts need to be removed, the State will ensure that no demolition or removal of structures will occur until either humane eviction or phased dismantling occurs, or deterrent methods are utilized. 3. Ensure that a qualified biologist prepares and submits a plan to CDFW that details partial dismantling and/or deterrent measures. 4. Ensure that bat eviction and/or partial dismantling of occupied buildings will occur during time periods specified in this mitigation measure. 5. Authorize construction if steps 1 through 4 can be done. If bat	4. Prior to construction 5. Prior to construction/during construction	

	Mitigation Measure	Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
			roosts cannot be avoided or construction activities could cause roost abandonment, ensure implementation of Mitigation Measure BIO-2c.		
BIO-2c	**Mitigation Measure BIO-2c. Prepare Bat Roost Compensation Plan and Provide Replacement Roosts for Roosts That Cannot Be Avoided** If bat roosts cannot be avoided or if it is determined that construction activities or Project site development may cause roost abandonment, the Project proponent shall refrain from such activities until roost sites have been replaced. For replacement of roost sites established in the existing vacant structures, the Project proponent shall retain a qualified bat biologist to develop a Bat Roost Compensation Plan that addresses the use of the vacant structures, identifies appropriate compensation measures commensurate with the size of the colony, and provides for no net loss in roosting areas for the bats.	1. N/A 2. Do not proceed with construction activities or Project site development until receiving authorization from the State.	1. Retain a qualified biologist to prepare a bat roost compensation plan. 2. Authorize construction after bat roost compensation measures have been implemented.	1. Prior to construction 2. During construction	

	Mitigation Measure	Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
Cultural Resources					
CR-1	**Immediately Halt Construction if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for Eligibility for Inclusion in the National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR), and Implement Appropriate Mitigation Measures for Eligible Resources.** If any cultural resources, such as structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during any project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the State will be contacted. All cultural resources accidentally uncovered during construction within the project site shall be evaluated for eligibility for inclusion in the NRHP/CRHR. Resource evaluations will be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. For finds that are of Native American concerns, local Native American tribes will be notified, if they have requested notification. If any of the resources meet the eligibility criteria identified in Pub. Res. Code § 5024.1 or CEQA § 21083.2(g), mitigation measures will be developed and implemented in accordance with CEQA Guidelines § 15126.4(b) before construction resumes. For resources eligible for listing in the CRHR that would be rendered ineligible by the effects of project construction, additional mitigation measures will be implemented. Mitigation measures for archaeological resources may	1. Coordinate with the State to provide workers information about potential buried cultural resources. 2. If any cultural resources are discovered, halt construction immediately within 50 feet of the find, contact the State. 3. Do not resume construction in the vicinity of the finds until clearance is given by the State. 4. Implement all additional mitigation measures determined by the State.	1. Provide workers information about potential buried cultural resources. 2. Confirm that any discoveries of archaeological finds are evaluated and addressed properly in accordance with the mitigation measure. 3. Provide clearance for construction activities to resume once appropriate. 4. For any resources that would be rendered ineligible for listing in CRHR due to effects of project construction, determine additional mitigation measures. Ensure	1. Prior to construction 2. During construction, if necessary 3. Following any cultural resource discovery 4. Following any cultural resource discovery	

	Mitigation Measure	Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
	include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a tribal cultural resource. Implementation of the approved mitigation would be required before resuming any construction activities with potential to affect identified eligible resources at the site.		implementation of those measures.		
CR-2	**Immediately Halt Construction if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code.** If human remains are accidentally discovered during the Proposed Project's construction activities, the requirements of California Health and Human Safety Code § 7050.5 shall be followed. Potentially damaging excavation shall halt in the Project site of the remains, with a minimum radius of 100 feet, and the Los Angeles County coroner shall be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (California Health and Safety Code § 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (California Health and Safety Code § 7050[c]). Pursuant to the provisions of Pub. Res.	1. Include a stop work provision for the discovery of human remains in the project plans and specifications. 2. In the event that human remains are encountered, halt work and contact the State. 3. Do not resume construction in the vicinity of the finds until clearance is given by the State.	1. Confirm that a stop work measure for the discovery of human remains is included in project plans and specifications. 2. The State shall immediately contact the Los Angeles County Coroner upon notification of any findings of human remains. 3. Confirm that any discoveries of	1. During preparation of plans and specifications 2. During construction 3. During construction	

	Mitigation Measure	Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
	Code § 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The State shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect. Native American human remains may also be determined to be tribal cultural resources. The County coroner will contend with the human remains if they are not of Native American origin.		human remains are evaluated and addressed properly in accordance with the mitigation measure.		
Geology, Soils and Seismicity					
GEO-1	**Conduct a Design-Specific Geotechnical Investigation and Incorporate Report Recommendations into the Final Design and Construction of the Proposed Project.** The State shall require in contract documents that a site-specific, design-level geotechnical investigation and corresponding report be required prior to final design approval. The geotechnical investigation shall comply with all applicable state and local code requirements and be conducted by a qualified geotechnical engineer (or team of geotechnical engineers) to evaluate subsurface soil and geologic conditions at the Project site. The corresponding geotechnical report shall document the results of that investigation and provide conclusions and recommendations relative to the geotechnical aspects of design and construction of the Proposed Project. Recommendations shall address site and geologic conditions with a focus on evaluating and mitigating: ▪ the potential for liquefiable soils;	1. Retain a geotechnical engineering consultant to prepare a design-specific geotechnical report for the project. 2. Include conclusions and recommendations from the geotechnical report regarding design and construction of the facility in the project plans and specifications.	1. Ensure that the Contractor has retained a geotechnical engineering consultant to prepare a design-specific geotechnical report for the project. 2. Confirm that the recommendations from the geotechnical report regarding design and construction of	1. During the design phase 2. During preparation of plans and specifications 3. During construction phase	

Mitigation Measure		Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
	▪ the expansion, shrink/swell potential, and corrosive properties of underlying soils; ▪ potential subsurface soil improvements; and ▪ the settlement and possibility of differential settlement of soils. The recommendations shall also address any other geologic hazards that are identified during the course of the investigation. The report shall provide design criteria to address any geotechnical issues and ensure that the Proposed Project's structures and facilities remain stable. CHP shall require in contract documents that the Proposed Project's final design and construction incorporate the recommendations put forth by the final geotechnical report and comply with all other relevant CBC standards and construction permit requirements.	3. Implement the recommendations from the geotechnical report that are in the project plans and specifications.	the facility are in the project plans and specifications. 3. Ensure that the geotechnical recommendations in the project plans and specifications are implemented.		
Hazards and Hazardous Materials					
HAZ-1	**Conduct Hazardous Materials Abatement by Licensed Contractor(s)** Hazardous materials abatement activities during Project construction will be conducted by a licensed contractor(s). Specifically, removal of all asbestos-containing building materials shall be conducted by a licensed contractor registered with Cal/OSHA. Such asbestos-containing building materials shall be removed prior to demolition and shall be disposed of following federal and state regulations. All paints at the site shall be treated as lead-containing for purposes of determining the applicability of Cal/OSHA lead standards during maintenance, renovation, and demolition activities. Universal wastes or suspected hazardous	1. Retain a licensed contractor registered with Cal/OSHA to conduct hazardous materials abatement activities. 2. Prior to demolition, ensure that all hazardous materials (asbestos-containing building	1. Ensure that the Contractor retains a licensed contractor registered with Cal/OSHA to conduct hazardous materials abatement activities. 2. Confirm that all hazardous	1. Prior to demolition and construction 2. Prior to demolition and construction	

	Mitigation Measure	Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
	materials (e.g., florescent light fixtures, household chemicals, automotive batteries, etc.) will be removed, recycled, and/or disposed of at an appropriate waste facility by a contractor(s) licensed to handle, transport, and/or dispose of universal wastes and hazardous wastes.	materials, all paints, universal wastes/suspected hazardous materials) are all properly disposed of as specified in this mitigation measure.	materials have been properly disposed of as specified in the this mitigation measure prior to demolition.		
Transportation/Traffic					
TRA-1	**Prepare and Implement a Construction Traffic Management Plan.** The Contractor shall prepare and implement a construction traffic management plan to reduce potential interference with an emergency response plan, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with the City of Pomona. CHP or the California Department of General Services (DGS) shall ensure that the plan is implemented during construction. The plan shall include, but will not be limited to, the following items: • Identify construction truck haul routes to limit truck and automobile traffic on nearby streets. The identified routes will be designed to minimize impacts on vehicular and pedestrian traffic, circulation, and safety. Identified haul routes will be recorded in the contract documents. • Implement comprehensive traffic control measures, including scheduling of major truck trips	1. Prepare project construction plans and specifications to include the mitigation measure. 2. Coordinate with the City of Pomona and the State upon development of the Traffic Management Plan. 3. Prepare and implement a Traffic Management Plan that includes, at a minimum, all of the elements in the mitigation measure. 4. Document road pavement	1. Review and approve project construction plans and specifications to confirm that the mitigation measure is included. 2. Facilitate coordination with the City of Pomona for development and implementation of the Traffic Management Plan. 3. Review and approve the Traffic Management Plan,	1. During development of plans and specifications 2. During development of plans and specifications 3. Prior to construction 4. Prior to construction and after construction 5. At the end of construction	.

	Mitigation Measure	Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
	and deliveries to avoid peak traffic hours, warning and detour signs (if required), lane closure procedures (if required), and cones for drivers. • Evaluate the need to provide flaggers or temporary traffic control at key intersections along the haul route during all or some portion of the construction period. • Notify adjacent property owners and public safety personnel regarding timing of major deliveries, detours, and lane closures. • Develop a process for responding to and tracking complaints pertaining to construction activity, including identification of an on-site complaint manager. Post 24-hour contact information for the complaint manager on the site. • Document road pavement conditions for all routes that would be used by construction vehicles before and after project construction. Make provisions to monitor the condition of surface streets used for haul routes so that any damage and debris attributable to the haul trucks could be identified and corrected. Roads damaged by construction vehicles shall be repaired to the level at which they existed before Project construction.	conditions for all routes that would be used by construction vehicles before and after project construction. 5. Repair damaged areas to level at which they existed before project construction.	and ensure that it is implemented. 4. Ensure that the Contractor documents road pavement conditions for all routes that would be used by construction vehicles before and after project construction. 5. Ensure damaged areas are repaired to level at which they existed before project construction.		
TRA-2	**Adjust and Optimize Signal Timing Plans for Opening Year Plus Project Conditions** CHP will work with the City of Pomona to develop and implement measures such that the Project does not reduce LOS or increase delay. This would involve modifying traffic signal cycle length for the signal timing plans such that they	1. N/A	1. The State will coordinate with the City of Pomona to development and implement	1. During construction	

Mitigation Measure		Contractor Responsibility	State Responsibility	Monitoring Schedule	Completion Date and Initials
	are adjusted and optimized for the expected traffic volume demand. Typically, this mitigation measure should not require any physical modifications to the intersections or roadways, although this would be confirmed with the City.		measures to ensure that the signal timing plans are adjusted and optimized so as not to reduce LOS or increase delay.		
Tribal Cultural Resources					
See CR-1 and CR-2					
Wildfire					
See TRA-1					