Appendix A

Air Quality and Greenhouse Gas Emissions

MEMORANDUM

To: Jon McWhorter

From: Alex Pohlman, Kimley-Horn

Date: October 22, 2020

Subject: Orangecrest Community Church Air Quality and Greenhouse Gas Emissions

Purpose

The purpose of this memorandum is to identify the air quality and greenhouse gas (GHG) emissions associated with construction and operation of the proposed Orangecrest Community Church.

Project Description

The Project proposes the construction and operation of a community church. The Project site is 5.27 acres in size and abuts Alessandro Boulevard to the south, Glenhaven Avenue to the east, a natural slope on the west, and single-family residential to the north, south, and east. The Project site's former use was a swim and tennis club. The pool was previously filled in. Two existing buildings that remain onsite from previous use will be renovated and expanded. The Project will also include the construction of three new buildings.

The Project would operate with hours typical of places of worship, with the primary activity occurring each Sunday for worship services. Occasional midweek gatherings and events would occur, including occasional evening events for the congregation and guests. Church classrooms are to be used when church is in service ("youth and children's ministries) and for occasional use throughout the week for church-related functions and ministries.

All activities would comply with the City's municipal code including limitations on noise, lighting and parking. The Project and associated activities are those associated with a place of worship and does not include "school classrooms" or similar weekday daily school uses that would generate weekday traffic.

Air Quality Analysis

Threshold (a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

(Source: South Coast Air Quality Management District's 2016 Air Quality Management Plan (AQMP))

Less Than Significant Impact. The City is located within the South Coast Air Basin ("the Basin"). The South Coast Air Quality Management District (SCAQMD) prepares the Air Quality Management Plan (AQMP) for the Basin. The AQMP sets forth a comprehensive program that will lead the Basin into compliance with all federal and state air quality standards. The AQMP's control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, if a project demonstrates compliance with local land use plans and/or population projections, then the AQMP would have taken into account such uses when it was developed.

The proposed Project includes construction and operation of a community church on a site previously used as a swim and tennis club. The site's General Plan designation is low density residential and is zoned R-1-13000 Single Family Residential, requiring a CUP to develop the site as a place of worship. Although this use is not consistent with the General Plan 2025 land uses which were incorporated in the AQMP, the Project would generate less emissions than seventeen single-family units (the maximum number permitted under R-1-13000 for a 5.27 acre site). The GP 2025 FPEIR determined that implementation of the General Plan 2025 would generally meet attainment forecasts and attainment of the standards of the AQMP. Because the proposed Project would generate less emissions than what was approved under the 2016 AQMP, the Project would not conflict or obstruct implementation of the AQMP. Therefore, the Project would have **less than significant** impacts directly, indirectly, or cumulatively to the implementation of an air quality plan.

Threshold (b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

(Source: General Plan 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2016 Air Quality Management Plan, CalEEMod version 2016.3.2, EMFAC 2017)

Less Than Significant Impact. Per the GP 2025 FPEIR, AQMP thresholds indicate future construction activities under the General Plan are projected to result in significant levels of NOx and ROG, both ozone precursors, PM_{10}, $PM_{2.5}$ and CO. The portion of the Basin within which the City is located is designated as a non-attainment area for ozone, PM_{10} and $PM_{2.5}$ under State standards, and as a non-attainment area for ozone, carbon monoxide, PM_{10}, and $PM_{2.5}$ under Federal standards.

The Project's short-term construction and long-term operational emissions were evaluated using the CalEEMod version 2016.3.2 computer program (refer to Appendix A – AQ/GHG Data). Project construction will be subject SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), and Rule 1113 for architectural coatings. Maximum daily emissions from Project construction are shown in **Table 1: Construction Emissions** and compared to the SCAQMD's daily regional thresholds. The maximum emissions from Project operation are shown in **Table 2: Operational Emissions** and compared to the SCAQMD daily regional thresholds.

Table 1: Construction Emissions

Activity	Maximum Pounds Per Day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Year 2021	5.58	40.55	38.48	0.08	9.28	5.80
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

ROG = reactive organic gases, NO_X = nitrogen oxides, CO = carbon monoxide, SO_2 = sulfur dioxide, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less

Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.

Table 2: Operational Emissions						
Source	Maximum Pounds Per Day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Source Emissions	0.47	< 0.01	0.01	0.00	< 0.01	< 0.01
Energy Emissions	0.02	0.15	0.13	< 0.01	0.01	0.01
Mobile Emissions	0.37	1.20	3.30	0.01	0.91	0.26
Total Emissions	**0.86**	**1.35**	**3.44**	**0.01**	**0.92**	**0.27**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*55*	*150*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
ROG = reactive organic gases, NO_X = nitrogen oxides, CO = carbon monoxide, SO_2 = sulfur dioxide, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less						
Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.						

The above tables compare the project emissions (construction and operational) to the SCAQMD daily thresholds and shows that established thresholds would not be exceeded. Because the proposed project is consistent with the General Plan 2025, cumulative impacts related to criteria pollutants as a result of the project were previously evaluated as part of the cumulative analysis of build out anticipated under the General Plan 2025 Program. As a result, the proposed project does not result in any new significant impacts that were not previously evaluated and for which a statement of overriding considerations was adopted as part of the General Plan 2025 FPEIR. Therefore, cumulative air quality emissions impacts are **less than significant**.

Threshold (c) Would the project expose sensitive receptors to substantial pollutant concentrations?

(Source: General Plan 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2016 Air Quality Management Plan, CalEEMod version 2016.3.2 EMFAC 2017)

Less Than Significant Impact. A significant impact may occur when a project would generate pollutant concentrations to a degree that would significantly affect sensitive receptors, which include populations that are more susceptible to the effects of air pollution than the population at large. Exposure of sensitive receptors is addressed for the following situations: criteria pollutants; CO hotspots; and toxic air contaminants (TACs, specifically diesel particulate matter [DPM]) from on-site construction.

Localized Significance Thresholds

The Localized Significance Threshold (LST) Methodology provides a look-up table for construction and operational emissions based on the emission rate, location, and distance from receptors, and provides a methodology for air dispersion modeling to evaluate whether construction or operation could cause an exceedance of an ambient air quality standard. An LST analysis was performed for this Project to show that NO_X, CO, PM_{10}, $PM_{2.5}$ emissions would not contribute to or cause an exceedance of California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS). For determining localized AQ impacts from small projects in a defined geographic source receptor area (SRA), the LST methodology provides mass emission rate lookup tables for 1-acre, 2-acre, and 5-acre parcels by SRA.

The appropriate SRA for the City of Riverside is Metropolitan Riverside County (SRA 23). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. Project construction is anticipated to disturb a maximum of 3.5 acres in a single day based on estimated amount of construction equipment that may be needed and the SCAQMD guidance document Fact Sheet for Applying CalEEMod to LTS (SCAQMD 2017). As the LST mass look-up tables provide thresholds for projects disturbing 1-, 2-, and 5-acres in size and the thresholds increase with size of the site, the stricter threshold for 2 acres was used for construction analysis. For operational LSTs, although the Project site is slightly larger than five acres, the LST lookup tables can be used to show that even if the daily emissions from all Project operations were emitted on a five-acre site, the impacts would be less than significant

The SCAQMD's methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs." Therefore, only emissions included in the CalEEMod "on-site" emissions outputs were considered. The nearest sensitive receptors are the multi-family residences located 110 feet (34 meters) north of the Project. LST thresholds are provided in the mass look-up tables for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, LSTs for receptors located at a distance of 34 meters have been interpolated and utilized in this analysis. The tables below present the results of localized emissions during construction and operation, emissions of these pollutants would not result in significant concentrations of pollutants at nearby sensitive receptors.

<table>
<tr><th colspan="9">Table 3: Localized Significance of Construction Emissions</th></tr>
<tr><th rowspan="2">Construction Activity</th><th colspan="8">Maximum Pounds Per Day</th></tr>
<tr><th colspan="2">NO_x</th><th colspan="2">CO</th><th colspan="2">PM_{10}</th><th colspan="2">$PM_{2.5}$</th></tr>
<tr><td>Demolition</td><td colspan="2">31.44</td><td colspan="2">21.57</td><td colspan="2">1.99</td><td colspan="2">1.51</td></tr>
<tr><td>Site Preparation</td><td colspan="2">40.50</td><td colspan="2">21.15</td><td colspan="2">9.09</td><td colspan="2">5.75</td></tr>
<tr><td>Grading</td><td colspan="2">24.74</td><td colspan="2">15.86</td><td colspan="2">3.72</td><td colspan="2">2.38</td></tr>
<tr><td>Construction[1]</td><td>17.43</td><td rowspan="3">31.88</td><td>16.58</td><td rowspan="3">33.05</td><td>0.96</td><td rowspan="3">1.73</td><td>0.90</td><td rowspan="3">1.61</td></tr>
<tr><td>Paving[1]</td><td>12.92</td><td>14.65</td><td>0.68</td><td>0.62</td></tr>
<tr><td>Architectural Coating[1]</td><td>1.53</td><td>1.82</td><td>0.09</td><td>0.09</td></tr>
<tr><td>SCAQMD Localized Screening Threshold (adjusted for 2 acres at 34 meters)</td><td colspan="2">272</td><td colspan="2">884</td><td colspan="2">19</td><td colspan="2">6</td></tr>
<tr><td>Exceed SCAQMD Threshold?</td><td colspan="2">No</td><td colspan="2">No</td><td colspan="2">No</td><td colspan="2">No</td></tr>
<tr><td colspan="9">1. The building construction, paving, and architectural coating sub-phases are combined because they would potentially occur at the same time.
Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.</td></tr>
</table>

<table>
<tr><th colspan="5">Table 4: Localized Significance of Operational Emissions</th></tr>
<tr><th rowspan="2">Construction Activity</th><th colspan="4">Maximum Pounds Per Day</th></tr>
<tr><th>NO_x</th><th>CO</th><th>PM_{10}</th><th>$PM_{2.5}$</th></tr>
<tr><td>On-Site and Mobile Source Emissions</td><td>1.35</td><td>3.44</td><td>0.92</td><td>0.27</td></tr>
<tr><td>SCAQMD Localized Screening Threshold (adjusted for 5 acres at 34 meters)</td><td>272</td><td>884</td><td>5</td><td>2</td></tr>
<tr><td>Exceed SCAQMD Threshold?</td><td>No</td><td>No</td><td>No</td><td>No</td></tr>
<tr><td colspan="5">Note: 5-acre area, 34 meters to sensitive receptor, and conservatively includes 100% of mobile source emissions
Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.</td></tr>
</table>

As shown in the tables above, the Project's construction and operational emissions would not exceed SCAQMD LSTs. Therefore, the Project would not result in significant localized construction or operational emissions.

Carbon Monoxide Hot Spots

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO "hot spots." The Project is anticipated to generate a maximum of 138 average daily trips (ADT). An adverse CO concentration ("hot spot") would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the NAAQS and CAAQS for CO. It has long been recognized that CO hot spots are caused by vehicular emissions, primarily when idling at congested intersections. However, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams per mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the Air Basin is now designated as attainment.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. An analysis prepared for CO attainment in the Air Basin by the SCAQMD can assist in evaluating the potential for CO exceedances. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 AQMP. As part of the SCAQMD CO Hot spot analysis, the Wilshire Boulevard/Veteran Avenue intersection, one of the most congested intersections in Southern California with an ADT volume of approximately 100,000 vehicles per day, was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6 parts per million (ppm), which is well below the 35-ppm federal standard. The proposed Project considered herein would not produce the volume of traffic required to generate a CO hot spot in the context of SCAQMD's 2003 CO hot-spot analysis. As the CO hotspots were not experienced at the Wilshire Boulevard and Veteran Avenue intersection even as it accommodates 100,000 vehicles daily, it can be reasonably inferred that CO hotspots would not be experienced at any vicinity intersections as a result of 138 additional vehicle trips attributable to the Project. Therefore, impacts would be less than significant in this regard.

Construction-Related Diesel Particulate Matter

Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

The use of diesel-powered construction equipment would be temporary and episodic. The duration of exposure would be short and exhaust from construction equipment dissipates rapidly. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of nine, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities.

California Office of Environmental Health Hazard Assessment has not identified short-term health effects from DPM. Construction is temporary and would be transient throughout the site (i.e., move from location to location) and would not generate emissions in a fixed location for extended periods of time. Construction would be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five minutes to further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. These regulations would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Given the temporary and intermittent nature of construction activities likely to occur within specific locations in the Project site (i.e., construction is not likely to occur in any one location for an extended time), the dose of DPM of any one receptor is exposed to would be limited. Therefore, considering the relatively short duration of DPM-emitting construction activity at any one location and the highly dispersive properties of DPM, sensitive receptors would not be exposed to substantial concentrations of construction-related TAC emissions. Carcinogenic health risk occurs from long-term exposure and not necessarily construction activities. For these reasons, DPM generated by construction activities, in and of itself, would not be expected to expose sensitive receptors to substantial amounts of air toxics and the Project would have a less than significant impact.

As discussed, short-term construction and long-term operational would not result in the generation of significant criteria pollutants, CO hotspots, and toxic air contaminants (TACs, specifically diesel PM). Therefore, the project will not expose sensitive receptors to substantial pollutant concentrations and a **less than significant impact** will occur directly, indirectly or cumulatively for this project.

Threshold (d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact. The project would not expose a substantial number of people to objectionable odors because no odors are anticipated to be generated by the proposed use. Therefore, **no impact** to creating objectionable odors will occur directly, indirectly or cumulatively.

Greenhouse Gas Analysis

Threshold (a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. Addressing GHG emissions generation impacts requires an agency to determine what constitutes a significant impact. The CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions would have a "significant" impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions (14 CRC § 15064.4(a)).

The South Coast Air Quality Management District (SCAQMD) formed a GHG California Environmental Quality Act (CEQA) Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. As of the last Working Group meeting (Meeting 15) held in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.

With the tiered approach, a project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. The SCAQMD is proposing a screening threshold of 10,000 metric tons of CO_2 equivalent ($MTCO_2e$) per year for industrial projects and 3,000 MTCO2e for non-industrial projects. SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact. Tier 4 consists of three decision tree options. Under the Tier 4 first option, SCAQMD initially outlined that a project would be excluded if design features or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. However, the Working Group did not provide a recommendation for this approach. The Working Group folded the Tier 4 second option into the third option. Under the Tier 4 third option, a project would be excluded if it was below an efficiency-based threshold of 4.8 $MTCO_2e$ per service population per year or 3.0 $MTCO_2e$ per service population per year for projects opening after 2020. Tier 5 would exclude projects that implement off-site mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

As the project involves the construction of a church, the 3,000 MTCO2e per year non-industrial screening threshold has been selected as the significance threshold, as it is most applicable to the proposed project.

Short-Term Construction GHG Emissions

The Project would result in direct emissions of GHGs from construction. The approximate quantity of daily GHG emissions generated by construction equipment utilized to build the Project is depicted in the table below.

Table 5: Construction GHG Emissions	
Category	**CO_2e Emissions, metric tons/year**
Total Construction Emissions	596.3
Emissions amortized over 30 years	19.88
Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.	

As shown, the Project would result in the generation of approximately 596.3 $MTCO_2e$ over the course of construction. Construction GHG emissions are typically summed and amortized over the lifetime of the Project (assumed to be 30 years), then added to the operational emissions. The amortized Project construction emissions would be 19.88 $MTCO_2e$ per year. Once construction is complete, the generation of these GHG emissions would cease.

Long-Term Operational GHG Emissions

Operational or long-term emissions occur over the life of the Project. GHG emissions would result from direct emissions such as Project generated vehicular traffic, on-site combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power, the energy required to convey water to, and wastewater from the Project, the emissions associated with solid waste generated from the Project, and any fugitive refrigerants from air conditioning or refrigerators.

Table 6: Operational GHG Emissions	
Emissions Source	**CO_2e Emissions, metric tons/year**
Area	< 0.01
Energy	156.43
Mobile	173.67
Waste	57.16
Water	28.21
Amortized Construction Emissions	19.88

Table 6: Operational GHG Emissions	
Emissions Source	**CO_2e Emissions, metric tons/year**
Total Annual Project GHG Emissions	**435.35**
Threshold	3,000
Exceeds Threshold?	**No**
Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.	

Total GHG emissions associated with the Project are summarized in the table above. Although the majority of vehicle trips will be generated on Sunday the church will occasionally be throughout the week for church-related functions and ministries, therefore, to be conservative, the maximum number of Sunday trips have been applied to everyday of the week. As shown, Project operations would generate approximately 435.35 MTCO_2e annually from both construction and operations and the Project-related GHG emissions. Therefore, the proposed project's total GHG emissions would not exceed the threshold of 3,000 MT CO_2e/year and thus would result in a **less than significant impact**.

Threshold (b) Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The SCAQMD supports State, federal, and international policies to reduce levels of ozone-depleting gases through its Global Warming Policy and rules, and the proposed Project would comply with the SCAQMD's interim GHG threshold. The proposed Project would comply with the City's General Plan policies and State Building Code provisions designed to reduce GHG emissions. In addition, the proposed Project would comply with all SCAQMD applicable rules and regulations during construction of the operational phase. As indicated above, Project emissions would not exceed the 3,000 MTCO_2e threshold, and therefore it would not interfere with the State's goals of reducing GHG emission to 1990 levels by the year 2020 as stated in AB 32 and an 80 percent reduction in GHG emissions below 1990 levels by 2050 as stated in Executive Order S-3-05. Therefore, the project will not conflict with any applicable plan, policy or regulation related to the reduction in the emissions of GHG and thus a **less than significant impact** will occur directly, indirectly and cumulatively in this regard.

Appendix A

Air Quality and Greenhouse Gas Emissions Data

Orangecrest Church

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	19.91	1000sqft	0.46	19,905.00	0
Other Asphalt Surfaces	122.44	1000sqft	2.81	122,443.00	0
City Park	2.00	Acre	2.00	87,370.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - (Place of Worship) five buildings total 19,905 SF, landscape (city park) = 87,370 SF, (Parking) includes parking, drive aisles, and other surfaces = 122,443 SF

Construction Phase - anticipated schedule. construction, paving, and painting phases anticipated to overlap

Demolition -

Grading - balanced site

Architectural Coating - Rule 1113

Vehicle Trips - Based on traffic study (ITE Code 560) 138 daily trips/ 19.905 = 6.9329314242652599849284099472494

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Area Coating - Rule 1113

Construction Off-road Equipment Mitigation - Rule 403

Area Mitigation -

Energy Mitigation - CEC - 2019 standards will reduce nonresidential energy use by 30% over 2016 standard, due mainly to lighting upgrades

Water Mitigation - current building code - low flow fixtures and water efficient landscape

Waste Mitigation - AB 939 - divert at least 50% of solid waste from landfills

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

tblConstructionPhase	NumDays	20.00	78.00
tblConstructionPhase	NumDays	230.00	200.00
tblConstructionPhase	NumDays	20.00	78.00
tblLandUse	LandUseSquareFeet	19,910.00	19,905.00
tblLandUse	LandUseSquareFeet	122,440.00	122,443.00
tblLandUse	LandUseSquareFeet	87,120.00	87,370.00
tblVehicleEF	HHD	1.43	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.10	2.1311e-007
tblVehicleEF	HHD	3.28	5.70
tblVehicleEF	HHD	0.46	0.43
tblVehicleEF	HHD	1.46	5.1287e-003
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tblVehicleEF	HHD	1,461.92	1,379.84
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tblVehicleEF	HHD	8.8680e-003	8.8102e-003
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tblVehicleEF	HHD	3.5000e-005	6.4013e-007
tblVehicleEF	HHD	8.4000e-005	3.9431e-006
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tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	7.1000e-005	4.3455e-007
tblVehicleEF	HHD	8.4000e-005	3.9431e-006
tblVehicleEF	HHD	2.5800e-003	1.4075e-004
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tblVehicleEF	HHD	1.8000e-004	7.3333e-004
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tblVehicleEF	HHD	0.03	0.03
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tblVehicleEF	HHD	1.39	4.8401e-003
tblVehicleEF	HHD	6,867.98	1,095.85
tblVehicleEF	HHD	1,461.92	1,379.84
tblVehicleEF	HHD	4.62	0.04

tblVehicleEF	HHD	27.25	5.75
tblVehicleEF	HHD	2.54	3.21
tblVehicleEF	HHD	20.32	2.01
tblVehicleEF	HHD	0.01	7.5760e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.06
tblVehicleEF	HHD	3.8000e-005	6.9620e-007
tblVehicleEF	HHD	0.01	7.2482e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8680e-003	8.8102e-003
tblVehicleEF	HHD	0.01	0.05
tblVehicleEF	HHD	3.5000e-005	6.4013e-007
tblVehicleEF	HHD	1.6300e-004	7.4470e-006
tblVehicleEF	HHD	2.9560e-003	1.5586e-004
tblVehicleEF	HHD	0.80	0.46
tblVehicleEF	HHD	9.2000e-005	5.0918e-006
tblVehicleEF	HHD	0.07	0.09
tblVehicleEF	HHD	1.8400e-004	7.4800e-004
tblVehicleEF	HHD	0.04	1.0449e-006
tblVehicleEF	HHD	0.06	0.01
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	6.9000e-005	4.3003e-007
tblVehicleEF	HHD	1.6300e-004	7.4470e-006
tblVehicleEF	HHD	2.9560e-003	1.5586e-004
tblVehicleEF	HHD	0.92	0.53
tblVehicleEF	HHD	9.2000e-005	5.0918e-006

tblVehicleEF	HHD	0.11	0.12
tblVehicleEF	HHD	1.8400e-004	7.4800e-004
tblVehicleEF	HHD	0.05	1.1441e-006
tblVehicleEF	HHD	1.54	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.10	2.1145e-007
tblVehicleEF	HHD	4.51	5.89
tblVehicleEF	HHD	0.45	0.43
tblVehicleEF	HHD	1.47	5.0740e-003
tblVehicleEF	HHD	5,957.03	1,101.50
tblVehicleEF	HHD	1,461.92	1,379.84
tblVehicleEF	HHD	4.62	0.04
tblVehicleEF	HHD	25.25	6.14
tblVehicleEF	HHD	2.67	3.35
tblVehicleEF	HHD	20.32	2.01
tblVehicleEF	HHD	0.02	8.8725e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.06
tblVehicleEF	HHD	3.8000e-005	6.9620e-007
tblVehicleEF	HHD	0.02	8.4887e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8680e-003	8.8102e-003
tblVehicleEF	HHD	0.01	0.05
tblVehicleEF	HHD	3.5000e-005	6.4013e-007
tblVehicleEF	HHD	6.7000e-005	4.1581e-006
tblVehicleEF	HHD	2.7490e-003	1.5944e-004

tblVehicleEF	HHD	0.91	0.42
tblVehicleEF	HHD	4.1000e-005	2.6509e-006
tblVehicleEF	HHD	0.07	0.09
tblVehicleEF	HHD	1.9200e-004	7.7684e-004
tblVehicleEF	HHD	0.05	1.0839e-006
tblVehicleEF	HHD	0.06	0.01
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	7.1000e-005	4.3370e-007
tblVehicleEF	HHD	6.7000e-005	4.1581e-006
tblVehicleEF	HHD	2.7490e-003	1.5944e-004
tblVehicleEF	HHD	1.05	0.48
tblVehicleEF	HHD	4.1000e-005	2.6509e-006
tblVehicleEF	HHD	0.11	0.12
tblVehicleEF	HHD	1.9200e-004	7.7684e-004
tblVehicleEF	HHD	0.05	1.1867e-006
tblVehicleEF	LDA	4.0430e-003	2.4275e-003
tblVehicleEF	LDA	5.4670e-003	0.05
tblVehicleEF	LDA	0.58	0.65
tblVehicleEF	LDA	1.16	2.15
tblVehicleEF	LDA	255.91	264.02
tblVehicleEF	LDA	58.81	54.78
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.6140e-003	1.4414e-003
tblVehicleEF	LDA	2.2650e-003	1.9145e-003

tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4880e-003	1.3280e-003
tblVehicleEF	LDA	2.0830e-003	1.7604e-003
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	9.3165e-003
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDA	2.5630e-003	2.6119e-003
tblVehicleEF	LDA	6.0800e-004	5.4212e-004
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDA	4.5900e-003	2.7357e-003
tblVehicleEF	LDA	4.7470e-003	0.05
tblVehicleEF	LDA	0.71	0.77
tblVehicleEF	LDA	1.02	1.80
tblVehicleEF	LDA	278.73	285.50
tblVehicleEF	LDA	58.81	54.12
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.17
tblVehicleEF	LDA	0.04	0.04

tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.6140e-003	1.4414e-003
tblVehicleEF	LDA	2.2650e-003	1.9145e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4880e-003	1.3280e-003
tblVehicleEF	LDA	2.0830e-003	1.7604e-003
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.07	0.09
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.20
tblVehicleEF	LDA	2.7930e-003	2.8244e-003
tblVehicleEF	LDA	6.0500e-004	5.3561e-004
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.07	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	3.8980e-003	2.3855e-003
tblVehicleEF	LDA	5.6140e-003	0.05
tblVehicleEF	LDA	0.54	0.62
tblVehicleEF	LDA	1.19	2.13
tblVehicleEF	LDA	249.57	260.40
tblVehicleEF	LDA	58.81	54.76

tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.6140e-003	1.4414e-003
tblVehicleEF	LDA	2.2650e-003	1.9145e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4880e-003	1.3280e-003
tblVehicleEF	LDA	2.0830e-003	1.7604e-003
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	9.8140e-003	9.1467e-003
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDA	2.4990e-003	2.5760e-003
tblVehicleEF	LDA	6.0800e-004	5.4186e-004
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDT1	0.01	7.6986e-003
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	1.46	1.55

tblVehicleEF	LDT1	3.40	2.46
tblVehicleEF	LDT1	315.98	313.01
tblVehicleEF	LDT1	72.28	66.81
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.21	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.21	0.19
tblVehicleEF	LDT1	0.35	0.27
tblVehicleEF	LDT1	0.14	0.00
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.20	0.87
tblVehicleEF	LDT1	0.24	0.46
tblVehicleEF	LDT1	3.1780e-003	3.0974e-003
tblVehicleEF	LDT1	7.8300e-004	6.6113e-004
tblVehicleEF	LDT1	0.21	0.19
tblVehicleEF	LDT1	0.35	0.27
tblVehicleEF	LDT1	0.14	0.13
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.20	0.87
tblVehicleEF	LDT1	0.26	0.50

tblVehicleEF	LDT1	0.01	8.5808e-003
tblVehicleEF	LDT1	0.02	0.08
tblVehicleEF	LDT1	1.76	1.83
tblVehicleEF	LDT1	2.99	2.05
tblVehicleEF	LDT1	343.19	335.41
tblVehicleEF	LDT1	72.28	65.94
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.20	0.29
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.41	0.36
tblVehicleEF	LDT1	0.43	0.32
tblVehicleEF	LDT1	0.27	0.00
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.20	0.85
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	3.4550e-003	3.3191e-003
tblVehicleEF	LDT1	7.7500e-004	6.5255e-004
tblVehicleEF	LDT1	0.41	0.36
tblVehicleEF	LDT1	0.43	0.32
tblVehicleEF	LDT1	0.27	0.26

tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.20	0.85
tblVehicleEF	LDT1	0.23	0.43
tblVehicleEF	LDT1	0.01	7.5727e-003
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	1.37	1.50
tblVehicleEF	LDT1	3.46	2.44
tblVehicleEF	LDT1	307.88	309.22
tblVehicleEF	LDT1	72.28	66.78
tblVehicleEF	LDT1	0.14	0.13
tblVehicleEF	LDT1	0.21	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.18	0.20
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.12	0.00
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.23	1.01
tblVehicleEF	LDT1	0.25	0.46
tblVehicleEF	LDT1	3.0960e-003	3.0600e-003
tblVehicleEF	LDT1	7.8400e-004	6.6081e-004

tblVehicleEF	LDT1	0.18	0.20
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.12	0.13
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.23	1.02
tblVehicleEF	LDT1	0.27	0.50
tblVehicleEF	LDT2	5.6080e-003	4.0030e-003
tblVehicleEF	LDT2	7.2840e-003	0.07
tblVehicleEF	LDT2	0.76	0.93
tblVehicleEF	LDT2	1.53	2.77
tblVehicleEF	LDT2	355.02	334.40
tblVehicleEF	LDT2	81.24	71.60
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003
tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.06	0.42

tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LDT2	3.5560e-003	3.3085e-003
tblVehicleEF	LDT2	8.3800e-004	7.0852e-004
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.11	0.37
tblVehicleEF	LDT2	6.3630e-003	4.4905e-003
tblVehicleEF	LDT2	6.3270e-003	0.06
tblVehicleEF	LDT2	0.93	1.11
tblVehicleEF	LDT2	1.35	2.31
tblVehicleEF	LDT2	386.34	356.10
tblVehicleEF	LDT2	81.24	70.71
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.13	0.29
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003
tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.14	0.17
tblVehicleEF	LDT2	0.14	0.15

tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.29
tblVehicleEF	LDT2	3.8710e-003	3.5232e-003
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tblVehicleEF	LDT2	0.14	0.17
tblVehicleEF	LDT2	0.14	0.15
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	5.3900e-003	3.9361e-003
tblVehicleEF	LDT2	7.4940e-003	0.07
tblVehicleEF	LDT2	0.71	0.90
tblVehicleEF	LDT2	1.57	2.75
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tblVehicleEF	LDT2	81.24	71.57
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003

tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.07	0.49
tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LDT2	3.4620e-003	3.2722e-003
tblVehicleEF	LDT2	8.3900e-004	7.0821e-004
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.49
tblVehicleEF	LDT2	0.11	0.37
tblVehicleEF	LHD1	5.4460e-003	4.7711e-003
tblVehicleEF	LHD1	0.01	5.3525e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.96	0.72
tblVehicleEF	LHD1	2.41	0.95
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.36
tblVehicleEF	LHD1	30.36	10.31
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.21	1.68
tblVehicleEF	LHD1	0.99	0.31

tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	3.8710e-003	2.6459e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9010e-003	1.3629e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.48
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1767e-003
tblVehicleEF	LHD1	3.4900e-004	1.0205e-004
tblVehicleEF	LHD1	3.8710e-003	2.6459e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9010e-003	1.3629e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.31	0.48
tblVehicleEF	LHD1	0.28	0.08

tblVehicleEF	LHD1	5.4460e-003	4.7847e-003
tblVehicleEF	LHD1	0.01	5.4445e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.97	0.74
tblVehicleEF	LHD1	2.29	0.90
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.38
tblVehicleEF	LHD1	30.36	10.22
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.08	1.58
tblVehicleEF	LHD1	0.96	0.29
tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	7.2450e-003	4.7126e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.6380e-003	2.6331e-003
tblVehicleEF	LHD1	0.08	0.06

tblVehicleEF	LHD1	0.32	0.48
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1769e-003
tblVehicleEF	LHD1	3.4700e-004	1.0116e-004
tblVehicleEF	LHD1	7.2450e-003	4.7126e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	3.6380e-003	2.6331e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.32	0.48
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	5.4460e-003	4.7735e-003
tblVehicleEF	LHD1	0.01	5.3625e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.96	0.73
tblVehicleEF	LHD1	2.41	0.94
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.36
tblVehicleEF	LHD1	30.36	10.30
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.18	1.65
tblVehicleEF	LHD1	0.99	0.30
tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01

tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	3.4570e-003	2.8041e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.7350e-003	1.4343e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1767e-003
tblVehicleEF	LHD1	3.4900e-004	1.0189e-004
tblVehicleEF	LHD1	3.4570e-003	2.8041e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.7350e-003	1.4343e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.33	0.52
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD2	3.6660e-003	2.9071e-003
tblVehicleEF	LHD2	4.5290e-003	3.7987e-003
tblVehicleEF	LHD2	8.3110e-003	8.1462e-003

tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.50	0.52
tblVehicleEF	LHD2	1.15	0.51
tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.61
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.71	1.83
tblVehicleEF	LHD2	0.53	0.17
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	1.4980e-003	1.2263e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.7800e-004	6.4826e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004

tblVehicleEF	LHD2	5.8740e-003	6.0523e-003
tblVehicleEF	LHD2	2.5700e-004	6.5406e-005
tblVehicleEF	LHD2	1.4980e-003	1.2263e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.7800e-004	6.4826e-004
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	LHD2	3.6660e-003	2.9149e-003
tblVehicleEF	LHD2	4.5800e-003	3.8275e-003
tblVehicleEF	LHD2	8.0210e-003	7.8341e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.51	0.52
tblVehicleEF	LHD2	1.10	0.48
tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.56
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.62	1.73
tblVehicleEF	LHD2	0.51	0.16
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003

tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
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tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.4720e-003	1.2508e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004
tblVehicleEF	LHD2	5.8740e-003	6.0524e-003
tblVehicleEF	LHD2	2.5600e-004	6.4938e-005
tblVehicleEF	LHD2	2.8320e-003	2.1864e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.4720e-003	1.2508e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	LHD2	3.6660e-003	2.9085e-003
tblVehicleEF	LHD2	4.5170e-003	3.8023e-003
tblVehicleEF	LHD2	8.3600e-003	8.0900e-003
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tblVehicleEF	LHD2	0.50	0.52
tblVehicleEF	LHD2	1.16	0.50

tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.60
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.70	1.81
tblVehicleEF	LHD2	0.53	0.17
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	1.1910e-003	1.2710e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.6000e-004	6.7445e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.24
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004
tblVehicleEF	LHD2	5.8740e-003	6.0523e-003
tblVehicleEF	LHD2	2.5700e-004	6.5323e-005
tblVehicleEF	LHD2	1.1910e-003	1.2710e-003

tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.6000e-004	6.7445e-004
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.24
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	MCY	0.42	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.52	19.50
tblVehicleEF	MCY	9.67	8.60
tblVehicleEF	MCY	165.74	207.81
tblVehicleEF	MCY	46.23	60.96
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003
tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	1.69	1.42
tblVehicleEF	MCY	0.85	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.15	2.15
tblVehicleEF	MCY	0.57	1.87

tblVehicleEF	MCY	2.08	1.85
tblVehicleEF	MCY	2.0380e-003	2.0565e-003
tblVehicleEF	MCY	6.8100e-004	6.0328e-004
tblVehicleEF	MCY	1.69	1.42
tblVehicleEF	MCY	0.85	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.65	2.64
tblVehicleEF	MCY	0.57	1.87
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.14	0.22
tblVehicleEF	MCY	20.23	19.46
tblVehicleEF	MCY	9.11	7.90
tblVehicleEF	MCY	165.74	207.59
tblVehicleEF	MCY	46.23	59.07
tblVehicleEF	MCY	0.98	0.98
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003
tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	3.35	2.73
tblVehicleEF	MCY	1.24	1.09

tblVehicleEF	MCY	2.10	1.72
tblVehicleEF	MCY	2.13	2.10
tblVehicleEF	MCY	0.57	1.84
tblVehicleEF	MCY	1.86	1.62
tblVehicleEF	MCY	2.0490e-003	2.0543e-003
tblVehicleEF	MCY	6.6500e-004	5.8457e-004
tblVehicleEF	MCY	3.35	2.73
tblVehicleEF	MCY	1.24	1.09
tblVehicleEF	MCY	2.10	1.72
tblVehicleEF	MCY	2.62	2.59
tblVehicleEF	MCY	0.57	1.84
tblVehicleEF	MCY	2.02	1.76
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	18.91
tblVehicleEF	MCY	9.62	8.38
tblVehicleEF	MCY	165.74	206.80
tblVehicleEF	MCY	46.23	60.47
tblVehicleEF	MCY	1.12	1.10
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003

tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	1.60	1.63
tblVehicleEF	MCY	1.05	1.06
tblVehicleEF	MCY	0.74	0.76
tblVehicleEF	MCY	2.15	2.13
tblVehicleEF	MCY	0.65	2.13
tblVehicleEF	MCY	2.08	1.81
tblVehicleEF	MCY	2.0310e-003	2.0465e-003
tblVehicleEF	MCY	6.8100e-004	5.9842e-004
tblVehicleEF	MCY	1.60	1.63
tblVehicleEF	MCY	1.05	1.06
tblVehicleEF	MCY	0.74	0.76
tblVehicleEF	MCY	2.64	2.62
tblVehicleEF	MCY	0.65	2.13
tblVehicleEF	MCY	2.27	1.97
tblVehicleEF	MDV	0.01	5.5311e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.42	1.15
tblVehicleEF	MDV	3.18	3.31
tblVehicleEF	MDV	488.89	418.28
tblVehicleEF	MDV	110.15	88.92
tblVehicleEF	MDV	0.17	0.12
tblVehicleEF	MDV	0.31	0.39
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003

tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.25	0.45
tblVehicleEF	MDV	4.9000e-003	4.1357e-003
tblVehicleEF	MDV	1.1570e-003	8.7994e-004
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.27	0.50
tblVehicleEF	MDV	0.01	6.1666e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.73	1.36
tblVehicleEF	MDV	2.81	2.77
tblVehicleEF	MDV	530.71	441.48
tblVehicleEF	MDV	110.15	87.84
tblVehicleEF	MDV	0.16	0.11
tblVehicleEF	MDV	0.30	0.37
tblVehicleEF	MDV	0.04	0.04

tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.22	0.20
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.47
tblVehicleEF	MDV	0.21	0.39
tblVehicleEF	MDV	5.3230e-003	4.3652e-003
tblVehicleEF	MDV	1.1510e-003	8.6926e-004
tblVehicleEF	MDV	0.22	0.20
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.11	0.47
tblVehicleEF	MDV	0.23	0.42
tblVehicleEF	MDV	0.01	5.4334e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.33	1.11
tblVehicleEF	MDV	3.24	3.29
tblVehicleEF	MDV	476.42	414.36
tblVehicleEF	MDV	110.15	88.88

tblVehicleEF	MDV	0.16	0.11
tblVehicleEF	MDV	0.31	0.39
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.13	0.55
tblVehicleEF	MDV	0.25	0.45
tblVehicleEF	MDV	4.7750e-003	4.0969e-003
tblVehicleEF	MDV	1.1590e-003	8.7956e-004
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.13	0.55
tblVehicleEF	MDV	0.28	0.50
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.70	1.37

tblVehicleEF	MH	5.98	2.14
tblVehicleEF	MH	1,002.10	1,470.05
tblVehicleEF	MH	57.67	18.94
tblVehicleEF	MH	1.67	1.62
tblVehicleEF	MH	0.86	0.23
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	1.56	1.15
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.54	0.42
tblVehicleEF	MH	0.09	0.06
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	9.9460e-003	0.01
tblVehicleEF	MH	6.8100e-004	1.8738e-004
tblVehicleEF	MH	1.56	1.15
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.54	0.42
tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.39	0.11

tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.78	1.41
tblVehicleEF	MH	5.56	1.98
tblVehicleEF	MH	1,002.10	1,470.11
tblVehicleEF	MH	57.67	18.68
tblVehicleEF	MH	1.55	1.50
tblVehicleEF	MH	0.83	0.22
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	2.87	2.01
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	1.06	0.82
tblVehicleEF	MH	0.10	0.06
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.34	0.09
tblVehicleEF	MH	9.9470e-003	0.01
tblVehicleEF	MH	6.7400e-004	1.8485e-004
tblVehicleEF	MH	2.87	2.01
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	1.06	0.82

tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.37	0.10
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.70	1.37
tblVehicleEF	MH	6.02	2.13
tblVehicleEF	MH	1,002.10	1,470.05
tblVehicleEF	MH	57.67	18.92
tblVehicleEF	MH	1.65	1.58
tblVehicleEF	MH	0.86	0.23
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	1.58	1.31
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.53	0.45
tblVehicleEF	MH	0.09	0.06
tblVehicleEF	MH	0.03	1.56
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	9.9460e-003	0.01
tblVehicleEF	MH	6.8200e-004	1.8725e-004

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tblVehicleEF	MH	0.10	0.08
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tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.56
tblVehicleEF	MH	0.39	0.11
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tblVehicleEF	MHD	0.06	7.1017e-003
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tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08

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tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
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tblVehicleEF	MHD	0.03	0.11
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tblVehicleEF	MHD	0.37	0.04
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tblVehicleEF	MHD	6.6100e-004	6.9447e-005
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tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	8.5800e-004	2.4808e-004
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tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
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tblVehicleEF	MHD	8.6100e-004	1.9827e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08
tblVehicleEF	MHD	7.2400e-004	7.6384e-005
tblVehicleEF	MHD	3.3760e-003	8.5308e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.6840e-003	4.9480e-004
tblVehicleEF	MHD	0.03	0.11
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.36	0.04
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tblVehicleEF	MHD	0.01	9.2823e-003
tblVehicleEF	MHD	6.5600e-004	6.8643e-005
tblVehicleEF	MHD	3.3760e-003	8.5308e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	1.6840e-003	4.9480e-004

tblVehicleEF	MHD	0.04	0.13
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.39	0.04
tblVehicleEF	MHD	0.02	2.9480e-003
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
tblVehicleEF	MHD	7.8800e-004	8.3075e-005
tblVehicleEF	MHD	1.2430e-003	2.8549e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08
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tblVehicleEF	MHD	0.05	0.02

tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.7900e-004	2.6308e-004
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tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.37	0.04
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tblVehicleEF	MHD	0.01	9.2823e-003
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tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.7900e-004	2.6308e-004
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tblVehicleEF	OBUS	2.18	0.56

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tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
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tblVehicleEF	SBUS	0.01	4.5978e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6950e-003	2.6443e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	4.2000e-004	4.0527e-005
tblVehicleEF	SBUS	4.1680e-003	1.3129e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.94	0.41
tblVehicleEF	SBUS	2.1000e-003	7.1176e-004
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.38	0.05
tblVehicleEF	SBUS	0.01	3.4454e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.6100e-004	6.9371e-005
tblVehicleEF	SBUS	4.1680e-003	1.3129e-003

tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.35	0.59
tblVehicleEF	SBUS	2.1000e-003	7.1176e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.41	0.05
tblVehicleEF	UBUS	1.51	3.04
tblVehicleEF	UBUS	0.09	0.02
tblVehicleEF	UBUS	8.45	23.57
tblVehicleEF	UBUS	15.26	1.95
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	23.43
tblVehicleEF	UBUS	4.95	0.30
tblVehicleEF	UBUS	12.47	0.24
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003
tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	9.7430e-003	1.5548e-003
tblVehicleEF	UBUS	0.11	0.01
tblVehicleEF	UBUS	4.7860e-003	9.2419e-004
tblVehicleEF	UBUS	0.52	0.05
tblVehicleEF	UBUS	0.02	0.06

tblVehicleEF	UBUS	1.17	0.10
tblVehicleEF	UBUS	9.9960e-003	6.3901e-003
tblVehicleEF	UBUS	1.8100e-003	2.3183e-004
tblVehicleEF	UBUS	9.7430e-003	1.5548e-003
tblVehicleEF	UBUS	0.11	0.01
tblVehicleEF	UBUS	4.7860e-003	9.2419e-004
tblVehicleEF	UBUS	2.08	3.11
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.28	0.10
tblVehicleEF	UBUS	1.52	3.04
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	8.53	23.58
tblVehicleEF	UBUS	13.06	1.66
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	22.94
tblVehicleEF	UBUS	4.62	0.29
tblVehicleEF	UBUS	12.38	0.23
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003
tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	0.02	2.7780e-003
tblVehicleEF	UBUS	0.14	0.02

tblVehicleEF	UBUS	9.6600e-003	1.8853e-003
tblVehicleEF	UBUS	0.53	0.05
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.06	0.09
tblVehicleEF	UBUS	9.9970e-003	6.3902e-003
tblVehicleEF	UBUS	1.7720e-003	2.2697e-004
tblVehicleEF	UBUS	0.02	2.7780e-003
tblVehicleEF	UBUS	0.14	0.02
tblVehicleEF	UBUS	9.6600e-003	1.8853e-003
tblVehicleEF	UBUS	2.09	3.11
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.17	0.10
tblVehicleEF	UBUS	1.51	3.04
tblVehicleEF	UBUS	0.09	0.02
tblVehicleEF	UBUS	8.44	23.57
tblVehicleEF	UBUS	15.44	1.93
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	23.40
tblVehicleEF	UBUS	4.92	0.30
tblVehicleEF	UBUS	12.47	0.23
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003

tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	8.9770e-003	1.6330e-003
tblVehicleEF	UBUS	0.13	0.01
tblVehicleEF	UBUS	4.3820e-003	9.7705e-004
tblVehicleEF	UBUS	0.52	0.05
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.18	0.10
tblVehicleEF	UBUS	9.9960e-003	6.3901e-003
tblVehicleEF	UBUS	1.8130e-003	2.3157e-004
tblVehicleEF	UBUS	8.9770e-003	1.6330e-003
tblVehicleEF	UBUS	0.13	0.01
tblVehicleEF	UBUS	4.3820e-003	9.7705e-004
tblVehicleEF	UBUS	2.08	3.11
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.29	0.10
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	64.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	10.37	6.93
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	36.63	6.93
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.11	6.93

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	5.5759	40.5457	38.4796	0.0764	18.2675	2.0457	20.3131	9.9840	1.8820	11.8660	0.0000	7,464.5529	7,464.5529	1.4565	0.0000	7,500.9648
Maximum	**5.5759**	**40.5457**	**38.4796**	**0.0764**	**18.2675**	**2.0457**	**20.3131**	**9.9840**	**1.8820**	**11.8660**	**0.0000**	**7,464.5529**	**7,464.5529**	**1.4565**	**0.0000**	**7,500.9648**

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	5.5759	40.5457	38.4796	0.0764	7.2313	2.0457	9.2769	3.9225	1.8820	5.8045	0.0000	7,464.5529	7,464.5529	1.4565	0.0000	7,500.9647
Maximum	**5.5759**	**40.5457**	**38.4796**	**0.0764**	**7.2313**	**2.0457**	**9.2769**	**3.9225**	**1.8820**	**5.8045**	**0.0000**	**7,464.5529**	**7,464.5529**	**1.4565**	**0.0000**	**7,500.9647**

	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**	**60.41**	**0.00**	**54.33**	**60.71**	**0.00**	**51.08**	**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	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Energy	0.0191	0.1737	0.1459	1.0400e-003		0.0132	0.0132		0.0132	0.0132		208.4491	208.4491	4.0000e-003	3.8200e-003	209.6879
Mobile	0.3662	1.1496	3.2975	0.0107	0.8908	0.0189	0.9097	0.2381	0.0179	0.2561		1,100.5344	1,100.5344	0.0424		1,101.5933
Total	**0.8586**	**1.3235**	**3.4582**	**0.0117**	**0.8908**	**0.0321**	**0.9229**	**0.2381**	**0.0312**	**0.2693**		**1,309.0152**	**1,309.0152**	**0.0464**	**3.8200e-003**	**1,311.3149**

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	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Energy	0.0164	0.1491	0.1252	8.9000e-004		0.0113	0.0113		0.0113	0.0113		178.8852	178.8852	3.4300e-003	3.2800e-003	179.9482
Mobile	0.3662	1.1496	3.2975	0.0107	0.8908	0.0189	0.9097	0.2381	0.0179	0.2561		1,100.5344	1,100.5344	0.0424		1,101.5933
Total	**0.8559**	**1.2988**	**3.4375**	**0.0116**	**0.8908**	**0.0303**	**0.9211**	**0.2381**	**0.0293**	**0.2675**		**1,279.4512**	**1,279.4512**	**0.0459**	**3.2800e-003**	**1,281.5752**

	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	0.32	1.86	0.60	1.28	0.00	5.82	0.20	0.00	6.00	0.69	0.00	2.26	2.26	1.23	14.14	2.27

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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/12/2021	5	20	
4	Building Construction	Building Construction	3/13/2021	12/17/2021	5	200	
5	Paving	Paving	9/1/2021	12/17/2021	5	78	
6	Architectural Coating	Architectural Coating	9/1/2021	12/17/2021	5	78	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.81

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,858; Non-Residential Outdoor: 9,953; Striped Parking Area: 7,347 (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
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
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
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	102.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	96.00	38.00	0.00	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
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Clean Paved Roads

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					1.1132	0.0000	1.1132	0.1686	0.0000	0.1686			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**1.1132**	**1.5513**	**2.6646**	**0.1686**	**1.4411**	**1.6097**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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	0.0248	1.1085	0.1458	3.8400e-003	0.0892	3.3800e-003	0.0926	0.0245	3.2300e-003	0.0277		407.6609	407.6609	0.0237		408.2528
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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0959**	**1.1490**	**0.7003**	**5.4400e-003**	**0.2569**	**4.3700e-003**	**0.2612**	**0.0689**	**4.1400e-003**	**0.0731**		**567.3735**	**567.3735**	**0.0275**		**568.0607**

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					0.4342	0.0000	0.4342	0.0657	0.0000	0.0657			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**	**0.4342**	**1.5513**	**1.9855**	**0.0657**	**1.4411**	**1.5068**	**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	0.0248	1.1085	0.1458	3.8400e-003	0.0831	3.3800e-003	0.0865	0.0230	3.2300e-003	0.0262		407.6609	407.6609	0.0237		408.2528
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	0.0711	0.0405	0.5546	1.6000e-003	0.1546	9.9000e-004	0.1555	0.0413	9.1000e-004	0.0422		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0959**	**1.1490**	**0.7003**	**5.4400e-003**	**0.2377**	**4.3700e-003**	**0.2421**	**0.0642**	**4.1400e-003**	**0.0684**		**567.3735**	**567.3735**	**0.0275**		**568.0607**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			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**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**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	0.0000	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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			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**	**7.0458**	**2.0445**	**9.0903**	**3.8730**	**1.8809**	**5.7539**	**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	0.0000	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	0.0853	0.0486	0.6655	1.9200e-003	0.1855	1.1900e-003	0.1866	0.0495	1.0900e-003	0.0506		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.1855**	**1.1900e-003**	**0.1866**	**0.0495**	**1.0900e-003**	**0.0506**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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	0.0000	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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5554**	**1.1599**	**3.7153**	**1.3133**	**1.0671**	**2.3804**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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	0.0000	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	0.0711	0.0405	0.5546	1.6000e-003	0.1546	9.9000e-004	0.1555	0.0413	9.1000e-004	0.0422		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1546**	**9.9000e-004**	**0.1555**	**0.0413**	**9.1000e-004**	**0.0422**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.5 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**

3.5 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	0.0887	3.5165	0.6274	9.8500e-003	0.2433	6.6900e-003	0.2500	0.0701	6.4000e-003	0.0765		1,038.353 9	1,038.353 9	0.0743		1,040.2110
Worker	0.4551	0.2593	3.5492	0.0103	1.0731	6.3200e-003	1.0794	0.2846	5.8200e-003	0.2904		1,022.160 9	1,022.160 9	0.0244		1,022.770 2
Total	**0.5438**	**3.7758**	**4.1766**	**0.0201**	**1.3164**	**0.0130**	**1.3294**	**0.3546**	**0.0122**	**0.3669**		**2,060.514 8**	**2,060.514 8**	**0.0987**		**2,062.981 2**

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	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.363 9**	**2,553.363 9**	**0.6160**		**2,568.764 3**

3.5 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	0.0887	3.5165	0.6274	9.8500e-003	0.2277	6.6900e-003	0.2344	0.0662	6.4000e-003	0.0726		1,038.353 9	1,038.353 9	0.0743		1,040.2110
Worker	0.4551	0.2593	3.5492	0.0103	0.9891	6.3200e-003	0.9954	0.2640	5.8200e-003	0.2698		1,022.160 9	1,022.160 9	0.0244		1,022.770 2
Total	**0.5438**	**3.7758**	**4.1766**	**0.0201**	**1.2168**	**0.0130**	**1.2298**	**0.3302**	**0.0122**	**0.3424**		**2,060.514 8**	**2,060.514 8**	**0.0987**		**2,062.981 2**

3.6 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.210 9	2,207.210 9	0.7139		2,225.057 3
Paving	0.0944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3499**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.210 9**	**2,207.210 9**	**0.7139**		**2,225.057 3**

3.6 Paving - 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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3499**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 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	0.0711	0.0405	0.5546	1.6000e-003	0.1546	9.9000e-004	0.1555	0.0413	9.1000e-004	0.0422		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1546**	**9.9000e-004**	**0.1555**	**0.0413**	**9.1000e-004**	**0.0422**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.7 Architectural Coating - 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					
Archit. Coating	1.4011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**1.6200**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 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	0.0901	0.0513	0.7025	2.0300e-003	0.2124	1.2500e-003	0.2136	0.0563	1.1500e-003	0.0575		202.3027	202.3027	4.8200e-003		202.4233
Total	**0.0901**	**0.0513**	**0.7025**	**2.0300e-003**	**0.2124**	**1.2500e-003**	**0.2136**	**0.0563**	**1.1500e-003**	**0.0575**		**202.3027**	**202.3027**	**4.8200e-003**		**202.4233**

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	1.4011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**1.6200**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 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	0.0901	0.0513	0.7025	2.0300e-003	0.1958	1.2500e-003	0.1970	0.0522	1.1500e-003	0.0534		202.3027	202.3027	4.8200e-003		202.4233
Total	**0.0901**	**0.0513**	**0.7025**	**2.0300e-003**	**0.1958**	**1.2500e-003**	**0.1970**	**0.0522**	**1.1500e-003**	**0.0534**		**202.3027**	**202.3027**	**4.8200e-003**		**202.4233**

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	0.3662	1.1496	3.2975	0.0107	0.8908	0.0189	0.9097	0.2381	0.0179	0.2561		1,100.534 4	1,100.534 4	0.0424		1,101.593 3
Unmitigated	0.3662	1.1496	3.2975	0.0107	0.8908	0.0189	0.9097	0.2381	0.0179	0.2561		1,100.534 4	1,100.534 4	0.0424		1,101.593 3

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	138.03	138.03	138.03	418,286	418,286
Total	138.03	138.03	138.03	418,286	418,286

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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Place of Worship	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.0164	0.1491	0.1252	8.9000e-004		0.0113	0.0113		0.0113	0.0113		178.8852	178.8852	3.4300e-003	3.2800e-003	179.9482
NaturalGas Unmitigated	0.0191	0.1737	0.1459	1.0400e-003		0.0132	0.0132		0.0132	0.0132		208.4491	208.4491	4.0000e-003	3.8200e-003	209.6879

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					
City Park	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
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
Place of Worship	1771.82	0.0191	0.1737	0.1459	1.0400e-003		0.0132	0.0132		0.0132	0.0132		208.4491	208.4491	4.0000e-003	3.8200e-003	209.6879
Total		**0.0191**	**0.1737**	**0.1459**	**1.0400e-003**		**0.0132**	**0.0132**		**0.0132**	**0.0132**		**208.4491**	**208.4491**	**4.0000e-003**	**3.8200e-003**	**209.6879**

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					
City Park	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
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
Place of Worship	1.52052	0.0164	0.1491	0.1252	8.9000e-004		0.0113	0.0113		0.0113	0.0113		178.8852	178.8852	3.4300e-003	3.2800e-003	179.9482
Total		**0.0164**	**0.1491**	**0.1252**	**8.9000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**		**178.8852**	**178.8852**	**3.4300e-003**	**3.2800e-003**	**179.9482**

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	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Unmitigated	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337

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	0.0299					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3800e-003	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Total	**0.4733**	**1.4000e-004**	**0.0148**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0316**	**0.0316**	**8.0000e-005**		**0.0337**

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	0.0299					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3800e-003	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Total	**0.4733**	**1.4000e-004**	**0.0148**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0316**	**0.0316**	**8.0000e-005**		**0.0337**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Orangecrest Church

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	19.91	1000sqft	0.46	19,905.00	0
Other Asphalt Surfaces	122.44	1000sqft	2.81	122,443.00	0
City Park	2.00	Acre	2.00	87,370.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - (Place of Worship) five buildings total 19,905 SF, landscape (city park) = 87,370 SF, (Parking) includes parking, drive aisles, and other surfaces = 122,443 SF

Construction Phase - anticipated schedule. construction, paving, and painting phases anticipated to overlap

Demolition -

Grading - balanced site

Architectural Coating - Rule 1113

Vehicle Trips - Based on traffic study (ITE Code 560) 138 daily trips/ 19.905 = 6.93293142426525998492840994724 94

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Area Coating - Rule 1113

Construction Off-road Equipment Mitigation - Rule 403

Area Mitigation -

Energy Mitigation - CEC - 2019 standards will reduce nonresidential energy use by 30% over 2016 standard, due mainly to lighting upgrades

Water Mitigation - current building code - low flow fixtures and water efficient landscape

Waste Mitigation - AB 939 - divert at least 50% of solid waste from landfills

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

tblConstructionPhase	NumDays	20.00	78.00
tblConstructionPhase	NumDays	230.00	200.00
tblConstructionPhase	NumDays	20.00	78.00
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tblLandUse	LandUseSquareFeet	122,440.00	122,443.00
tblLandUse	LandUseSquareFeet	87,120.00	87,370.00
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tblVehicleEF	HHD	0.01	0.06
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tblVehicleEF	LDT1	0.14	0.13
tblVehicleEF	LDT1	0.04	0.05
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tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
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tblVehicleEF	LDT1	0.27	0.26

tblVehicleEF	LDT1	0.05	0.05
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tblVehicleEF	LDT1	307.88	309.22
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tblVehicleEF	LDT1	0.14	0.13
tblVehicleEF	LDT1	0.21	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.18	0.20
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.12	0.00
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.23	1.01
tblVehicleEF	LDT1	0.25	0.46
tblVehicleEF	LDT1	3.0960e-003	3.0600e-003
tblVehicleEF	LDT1	7.8400e-004	6.6081e-004

tblVehicleEF	LDT1	0.18	0.20
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.12	0.13
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.23	1.02
tblVehicleEF	LDT1	0.27	0.50
tblVehicleEF	LDT2	5.6080e-003	4.0030e-003
tblVehicleEF	LDT2	7.2840e-003	0.07
tblVehicleEF	LDT2	0.76	0.93
tblVehicleEF	LDT2	1.53	2.77
tblVehicleEF	LDT2	355.02	334.40
tblVehicleEF	LDT2	81.24	71.60
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003
tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.06	0.42

tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LDT2	3.5560e-003	3.3085e-003
tblVehicleEF	LDT2	8.3800e-004	7.0852e-004
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.11	0.37
tblVehicleEF	LDT2	6.3630e-003	4.4905e-003
tblVehicleEF	LDT2	6.3270e-003	0.06
tblVehicleEF	LDT2	0.93	1.11
tblVehicleEF	LDT2	1.35	2.31
tblVehicleEF	LDT2	386.34	356.10
tblVehicleEF	LDT2	81.24	70.71
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.13	0.29
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003
tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.14	0.17
tblVehicleEF	LDT2	0.14	0.15

tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.29
tblVehicleEF	LDT2	3.8710e-003	3.5232e-003
tblVehicleEF	LDT2	8.3500e-004	6.9977e-004
tblVehicleEF	LDT2	0.14	0.17
tblVehicleEF	LDT2	0.14	0.15
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	5.3900e-003	3.9361e-003
tblVehicleEF	LDT2	7.4940e-003	0.07
tblVehicleEF	LDT2	0.71	0.90
tblVehicleEF	LDT2	1.57	2.75
tblVehicleEF	LDT2	345.65	330.74
tblVehicleEF	LDT2	81.24	71.57
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003

tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.07	0.49
tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LDT2	3.4620e-003	3.2722e-003
tblVehicleEF	LDT2	8.3900e-004	7.0821e-004
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.49
tblVehicleEF	LDT2	0.11	0.37
tblVehicleEF	LHD1	5.4460e-003	4.7711e-003
tblVehicleEF	LHD1	0.01	5.3525e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.96	0.72
tblVehicleEF	LHD1	2.41	0.95
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.36
tblVehicleEF	LHD1	30.36	10.31
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.21	1.68
tblVehicleEF	LHD1	0.99	0.31

tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	3.8710e-003	2.6459e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9010e-003	1.3629e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.48
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1767e-003
tblVehicleEF	LHD1	3.4900e-004	1.0205e-004
tblVehicleEF	LHD1	3.8710e-003	2.6459e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9010e-003	1.3629e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.31	0.48
tblVehicleEF	LHD1	0.28	0.08

tblVehicleEF	LHD1	5.4460e-003	4.7847e-003
tblVehicleEF	LHD1	0.01	5.4445e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.97	0.74
tblVehicleEF	LHD1	2.29	0.90
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.38
tblVehicleEF	LHD1	30.36	10.22
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.08	1.58
tblVehicleEF	LHD1	0.96	0.29
tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	7.2450e-003	4.7126e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.6380e-003	2.6331e-003
tblVehicleEF	LHD1	0.08	0.06

tblVehicleEF	LHD1	0.32	0.48
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1769e-003
tblVehicleEF	LHD1	3.4700e-004	1.0116e-004
tblVehicleEF	LHD1	7.2450e-003	4.7126e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	3.6380e-003	2.6331e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.32	0.48
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	5.4460e-003	4.7735e-003
tblVehicleEF	LHD1	0.01	5.3625e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.96	0.73
tblVehicleEF	LHD1	2.41	0.94
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.36
tblVehicleEF	LHD1	30.36	10.30
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.18	1.65
tblVehicleEF	LHD1	0.99	0.30
tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01

tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	3.4570e-003	2.8041e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.7350e-003	1.4343e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1767e-003
tblVehicleEF	LHD1	3.4900e-004	1.0189e-004
tblVehicleEF	LHD1	3.4570e-003	2.8041e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.7350e-003	1.4343e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.33	0.52
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD2	3.6660e-003	2.9071e-003
tblVehicleEF	LHD2	4.5290e-003	3.7987e-003
tblVehicleEF	LHD2	8.3110e-003	8.1462e-003

tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.50	0.52
tblVehicleEF	LHD2	1.15	0.51
tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.61
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.71	1.83
tblVehicleEF	LHD2	0.53	0.17
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	1.4980e-003	1.2263e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.7800e-004	6.4826e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004

tblVehicleEF	LHD2	5.8740e-003	6.0523e-003
tblVehicleEF	LHD2	2.5700e-004	6.5406e-005
tblVehicleEF	LHD2	1.4980e-003	1.2263e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.7800e-004	6.4826e-004
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	LHD2	3.6660e-003	2.9149e-003
tblVehicleEF	LHD2	4.5800e-003	3.8275e-003
tblVehicleEF	LHD2	8.0210e-003	7.8341e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.51	0.52
tblVehicleEF	LHD2	1.10	0.48
tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.56
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.62	1.73
tblVehicleEF	LHD2	0.51	0.16
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003

tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	2.8320e-003	2.1864e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.4720e-003	1.2508e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004
tblVehicleEF	LHD2	5.8740e-003	6.0524e-003
tblVehicleEF	LHD2	2.5600e-004	6.4938e-005
tblVehicleEF	LHD2	2.8320e-003	2.1864e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.4720e-003	1.2508e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	LHD2	3.6660e-003	2.9085e-003
tblVehicleEF	LHD2	4.5170e-003	3.8023e-003
tblVehicleEF	LHD2	8.3600e-003	8.0900e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.50	0.52
tblVehicleEF	LHD2	1.16	0.50

tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.60
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.70	1.81
tblVehicleEF	LHD2	0.53	0.17
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	1.1910e-003	1.2710e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.6000e-004	6.7445e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.24
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004
tblVehicleEF	LHD2	5.8740e-003	6.0523e-003
tblVehicleEF	LHD2	2.5700e-004	6.5323e-005
tblVehicleEF	LHD2	1.1910e-003	1.2710e-003

tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.6000e-004	6.7445e-004
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.24
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	MCY	0.42	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.52	19.50
tblVehicleEF	MCY	9.67	8.60
tblVehicleEF	MCY	165.74	207.81
tblVehicleEF	MCY	46.23	60.96
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003
tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	1.69	1.42
tblVehicleEF	MCY	0.85	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.15	2.15
tblVehicleEF	MCY	0.57	1.87

tblVehicleEF	MCY	2.08	1.85
tblVehicleEF	MCY	2.0380e-003	2.0565e-003
tblVehicleEF	MCY	6.8100e-004	6.0328e-004
tblVehicleEF	MCY	1.69	1.42
tblVehicleEF	MCY	0.85	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.65	2.64
tblVehicleEF	MCY	0.57	1.87
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.14	0.22
tblVehicleEF	MCY	20.23	19.46
tblVehicleEF	MCY	9.11	7.90
tblVehicleEF	MCY	165.74	207.59
tblVehicleEF	MCY	46.23	59.07
tblVehicleEF	MCY	0.98	0.98
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003
tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	3.35	2.73
tblVehicleEF	MCY	1.24	1.09

tblVehicleEF	MCY	2.10	1.72
tblVehicleEF	MCY	2.13	2.10
tblVehicleEF	MCY	0.57	1.84
tblVehicleEF	MCY	1.86	1.62
tblVehicleEF	MCY	2.0490e-003	2.0543e-003
tblVehicleEF	MCY	6.6500e-004	5.8457e-004
tblVehicleEF	MCY	3.35	2.73
tblVehicleEF	MCY	1.24	1.09
tblVehicleEF	MCY	2.10	1.72
tblVehicleEF	MCY	2.62	2.59
tblVehicleEF	MCY	0.57	1.84
tblVehicleEF	MCY	2.02	1.76
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	18.91
tblVehicleEF	MCY	9.62	8.38
tblVehicleEF	MCY	165.74	206.80
tblVehicleEF	MCY	46.23	60.47
tblVehicleEF	MCY	1.12	1.10
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003

tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	1.60	1.63
tblVehicleEF	MCY	1.05	1.06
tblVehicleEF	MCY	0.74	0.76
tblVehicleEF	MCY	2.15	2.13
tblVehicleEF	MCY	0.65	2.13
tblVehicleEF	MCY	2.08	1.81
tblVehicleEF	MCY	2.0310e-003	2.0465e-003
tblVehicleEF	MCY	6.8100e-004	5.9842e-004
tblVehicleEF	MCY	1.60	1.63
tblVehicleEF	MCY	1.05	1.06
tblVehicleEF	MCY	0.74	0.76
tblVehicleEF	MCY	2.64	2.62
tblVehicleEF	MCY	0.65	2.13
tblVehicleEF	MCY	2.27	1.97
tblVehicleEF	MDV	0.01	5.5311e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.42	1.15
tblVehicleEF	MDV	3.18	3.31
tblVehicleEF	MDV	488.89	418.28
tblVehicleEF	MDV	110.15	88.92
tblVehicleEF	MDV	0.17	0.12
tblVehicleEF	MDV	0.31	0.39
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003

tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.25	0.45
tblVehicleEF	MDV	4.9000e-003	4.1357e-003
tblVehicleEF	MDV	1.1570e-003	8.7994e-004
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.27	0.50
tblVehicleEF	MDV	0.01	6.1666e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.73	1.36
tblVehicleEF	MDV	2.81	2.77
tblVehicleEF	MDV	530.71	441.48
tblVehicleEF	MDV	110.15	87.84
tblVehicleEF	MDV	0.16	0.11
tblVehicleEF	MDV	0.30	0.37
tblVehicleEF	MDV	0.04	0.04

tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.22	0.20
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.47
tblVehicleEF	MDV	0.21	0.39
tblVehicleEF	MDV	5.3230e-003	4.3652e-003
tblVehicleEF	MDV	1.1510e-003	8.6926e-004
tblVehicleEF	MDV	0.22	0.20
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.11	0.47
tblVehicleEF	MDV	0.23	0.42
tblVehicleEF	MDV	0.01	5.4334e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.33	1.11
tblVehicleEF	MDV	3.24	3.29
tblVehicleEF	MDV	476.42	414.36
tblVehicleEF	MDV	110.15	88.88

tblVehicleEF	MDV	0.16	0.11
tblVehicleEF	MDV	0.31	0.39
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.13	0.55
tblVehicleEF	MDV	0.25	0.45
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tblVehicleEF	MDV	1.1590e-003	8.7956e-004
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.13	0.55
tblVehicleEF	MDV	0.28	0.50
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.70	1.37

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tblVehicleEF	MH	0.86	0.23
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tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	1.56	1.15
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.54	0.42
tblVehicleEF	MH	0.09	0.06
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	9.9460e-003	0.01
tblVehicleEF	MH	6.8100e-004	1.8738e-004
tblVehicleEF	MH	1.56	1.15
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.54	0.42
tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.39	0.11

tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.78	1.41
tblVehicleEF	MH	5.56	1.98
tblVehicleEF	MH	1,002.10	1,470.11
tblVehicleEF	MH	57.67	18.68
tblVehicleEF	MH	1.55	1.50
tblVehicleEF	MH	0.83	0.22
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	2.87	2.01
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	1.06	0.82
tblVehicleEF	MH	0.10	0.06
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.34	0.09
tblVehicleEF	MH	9.9470e-003	0.01
tblVehicleEF	MH	6.7400e-004	1.8485e-004
tblVehicleEF	MH	2.87	2.01
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	1.06	0.82

tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.37	0.10
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.70	1.37
tblVehicleEF	MH	6.02	2.13
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tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
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tblVehicleEF	MH	0.53	0.45
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tblVehicleEF	MH	0.39	0.11
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tblVehicleEF	MHD	151.96	73.08
tblVehicleEF	MHD	1,066.63	977.33
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tblVehicleEF	MHD	1.0680e-003	2.4553e-003
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
tblVehicleEF	MHD	7.8800e-004	8.3075e-005
tblVehicleEF	MHD	1.0220e-003	2.3490e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08

tblVehicleEF	MHD	7.2400e-004	7.6384e-005
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	8.5800e-004	2.4808e-004
tblVehicleEF	MHD	0.03	0.11
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.37	0.04
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tblVehicleEF	MHD	0.01	9.2823e-003
tblVehicleEF	MHD	6.6100e-004	6.9447e-005
tblVehicleEF	MHD	1.7450e-003	4.7261e-004
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tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	8.5800e-004	2.4808e-004
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tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.02	2.6082e-003
tblVehicleEF	MHD	3.7740e-003	5.7084e-003
tblVehicleEF	MHD	0.05	6.8222e-003
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tblVehicleEF	MHD	0.28	0.52
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tblVehicleEF	MHD	1,066.63	977.34
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tblVehicleEF	MHD	0.01	0.01
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tblVehicleEF	MHD	7.8800e-004	8.3075e-005
tblVehicleEF	MHD	8.6100e-004	1.9827e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08
tblVehicleEF	MHD	7.2400e-004	7.6384e-005
tblVehicleEF	MHD	3.3760e-003	8.5308e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.6840e-003	4.9480e-004
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tblVehicleEF	MHD	0.36	0.04
tblVehicleEF	MHD	1.5460e-003	7.0697e-004
tblVehicleEF	MHD	0.01	9.2823e-003
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tblVehicleEF	MHD	3.3760e-003	8.5308e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	1.6840e-003	4.9480e-004

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tblVehicleEF	MHD	0.02	0.08
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
tblVehicleEF	MHD	7.8800e-004	8.3075e-005
tblVehicleEF	MHD	1.2430e-003	2.8549e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08
tblVehicleEF	MHD	7.2400e-004	7.6384e-005
tblVehicleEF	MHD	1.3320e-003	5.0561e-004
tblVehicleEF	MHD	0.05	0.02

tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.7900e-004	2.6308e-004
tblVehicleEF	MHD	0.03	0.11
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.37	0.04
tblVehicleEF	MHD	1.3440e-003	6.7281e-004
tblVehicleEF	MHD	0.01	9.2823e-003
tblVehicleEF	MHD	6.6300e-004	6.9296e-005
tblVehicleEF	MHD	1.3320e-003	5.0561e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.7900e-004	2.6308e-004
tblVehicleEF	MHD	0.04	0.13
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.41	0.04
tblVehicleEF	OBUS	0.01	8.8304e-003
tblVehicleEF	OBUS	8.0950e-003	9.8616e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.27	0.48
tblVehicleEF	OBUS	0.54	1.11
tblVehicleEF	OBUS	6.17	2.80
tblVehicleEF	OBUS	75.04	68.90
tblVehicleEF	OBUS	1,098.07	1,401.75
tblVehicleEF	OBUS	70.10	21.77
tblVehicleEF	OBUS	0.35	0.41
tblVehicleEF	OBUS	1.12	1.96
tblVehicleEF	OBUS	2.18	0.56

tblVehicleEF	OBUS	1.2100e-004	1.7088e-003
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.0450e-003	0.05
tblVehicleEF	OBUS	8.2300e-004	2.0944e-004
tblVehicleEF	OBUS	1.1600e-004	1.6349e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	5.7680e-003	0.04
tblVehicleEF	OBUS	7.5700e-004	1.9258e-004
tblVehicleEF	OBUS	2.1800e-003	2.6435e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	9.3000e-004	1.1509e-003
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tblVehicleEF	OBUS	0.39	0.13
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tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.0900e-004	2.1540e-004
tblVehicleEF	OBUS	2.1800e-003	2.6435e-003
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tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	9.3000e-004	1.1509e-003
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tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.42	0.15

tblVehicleEF	OBUS	0.01	8.8556e-003
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tblVehicleEF	OBUS	0.03	0.02
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tblVehicleEF	OBUS	70.10	21.43
tblVehicleEF	OBUS	0.36	0.41
tblVehicleEF	OBUS	1.04	1.83
tblVehicleEF	OBUS	2.14	0.54
tblVehicleEF	OBUS	1.0200e-004	1.4437e-003
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.0450e-003	0.05
tblVehicleEF	OBUS	8.2300e-004	2.0944e-004
tblVehicleEF	OBUS	9.8000e-005	1.3812e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	5.7680e-003	0.04
tblVehicleEF	OBUS	7.5700e-004	1.9258e-004
tblVehicleEF	OBUS	4.0690e-003	4.6625e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.7890e-003	2.2351e-003
tblVehicleEF	OBUS	0.04	0.10

tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	7.6100e-004	6.6259e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.0200e-004	2.1210e-004
tblVehicleEF	OBUS	4.0690e-003	4.6625e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.7890e-003	2.2351e-003
tblVehicleEF	OBUS	0.05	0.13
tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.40	0.14
tblVehicleEF	OBUS	0.01	8.8320e-003
tblVehicleEF	OBUS	8.0660e-003	9.8763e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.28	0.51
tblVehicleEF	OBUS	0.54	1.12
tblVehicleEF	OBUS	6.22	2.79
tblVehicleEF	OBUS	70.30	68.21
tblVehicleEF	OBUS	1,098.07	1,401.75
tblVehicleEF	OBUS	70.10	21.75
tblVehicleEF	OBUS	0.34	0.41
tblVehicleEF	OBUS	1.11	1.93
tblVehicleEF	OBUS	2.17	0.55
tblVehicleEF	OBUS	1.4700e-004	2.0750e-003
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	6.0450e-003	0.05
tblVehicleEF	OBUS	8.2300e-004	2.0944e-004
tblVehicleEF	OBUS	1.4100e-004	1.9852e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	5.7680e-003	0.04
tblVehicleEF	OBUS	7.5700e-004	1.9258e-004
tblVehicleEF	OBUS	1.8870e-003	2.7905e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	8.5400e-004	1.2289e-003
tblVehicleEF	OBUS	0.04	0.10
tblVehicleEF	OBUS	0.05	0.30
tblVehicleEF	OBUS	0.39	0.13
tblVehicleEF	OBUS	6.8300e-004	6.5131e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.1000e-004	2.1523e-004
tblVehicleEF	OBUS	1.8870e-003	2.7905e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	8.5400e-004	1.2289e-003
tblVehicleEF	OBUS	0.05	0.13
tblVehicleEF	OBUS	0.05	0.30
tblVehicleEF	OBUS	0.42	0.15
tblVehicleEF	SBUS	0.84	0.09
tblVehicleEF	SBUS	0.01	7.1350e-003
tblVehicleEF	SBUS	0.06	7.9942e-003

tblVehicleEF	SBUS	7.83	3.38
tblVehicleEF	SBUS	0.64	0.59
tblVehicleEF	SBUS	6.66	1.10
tblVehicleEF	SBUS	1,146.29	374.62
tblVehicleEF	SBUS	1,103.40	1,117.10
tblVehicleEF	SBUS	53.92	6.97
tblVehicleEF	SBUS	10.00	3.53
tblVehicleEF	SBUS	4.65	4.80
tblVehicleEF	SBUS	12.45	0.65
tblVehicleEF	SBUS	0.01	3.9568e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	4.5700e-004	4.4077e-005
tblVehicleEF	SBUS	0.01	3.7856e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6950e-003	2.6443e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	4.2000e-004	4.0527e-005
tblVehicleEF	SBUS	4.6830e-003	1.3761e-003
tblVehicleEF	SBUS	0.03	9.8813e-003
tblVehicleEF	SBUS	0.94	0.41
tblVehicleEF	SBUS	2.1770e-003	6.8647e-004
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	0.02	0.06
tblVehicleEF	SBUS	0.37	0.05
tblVehicleEF	SBUS	0.01	3.5825e-003

tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.5500e-004	6.8974e-005
tblVehicleEF	SBUS	4.6830e-003	1.3761e-003
tblVehicleEF	SBUS	0.03	9.8813e-003
tblVehicleEF	SBUS	1.35	0.59
tblVehicleEF	SBUS	2.1770e-003	6.8647e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.06
tblVehicleEF	SBUS	0.40	0.05
tblVehicleEF	SBUS	0.84	0.09
tblVehicleEF	SBUS	0.01	7.2252e-003
tblVehicleEF	SBUS	0.05	6.6642e-003
tblVehicleEF	SBUS	7.71	3.33
tblVehicleEF	SBUS	0.65	0.60
tblVehicleEF	SBUS	4.83	0.79
tblVehicleEF	SBUS	1,198.60	385.14
tblVehicleEF	SBUS	1,103.40	1,117.12
tblVehicleEF	SBUS	53.92	6.45
tblVehicleEF	SBUS	10.32	3.62
tblVehicleEF	SBUS	4.37	4.52
tblVehicleEF	SBUS	12.42	0.65
tblVehicleEF	SBUS	9.1190e-003	3.3421e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	4.5700e-004	4.4077e-005
tblVehicleEF	SBUS	8.7240e-003	3.1975e-003

tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6950e-003	2.6443e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	4.2000e-004	4.0527e-005
tblVehicleEF	SBUS	8.4640e-003	2.4143e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.93	0.41
tblVehicleEF	SBUS	4.0830e-003	1.2843e-003
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.31	0.04
tblVehicleEF	SBUS	0.01	3.6819e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.2400e-004	6.3868e-005
tblVehicleEF	SBUS	8.4640e-003	2.4143e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.35	0.59
tblVehicleEF	SBUS	4.0830e-003	1.2843e-003
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.34	0.04
tblVehicleEF	SBUS	0.84	0.09
tblVehicleEF	SBUS	0.01	7.1336e-003
tblVehicleEF	SBUS	0.07	8.1369e-003
tblVehicleEF	SBUS	8.00	3.43
tblVehicleEF	SBUS	0.63	0.59
tblVehicleEF	SBUS	7.02	1.12

tblVehicleEF	SBUS	1,074.07	360.11
tblVehicleEF	SBUS	1,103.40	1,117.10
tblVehicleEF	SBUS	53.92	7.01
tblVehicleEF	SBUS	9.56	3.40
tblVehicleEF	SBUS	4.60	4.73
tblVehicleEF	SBUS	12.46	0.65
tblVehicleEF	SBUS	0.01	4.8056e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	4.5700e-004	4.4077e-005
tblVehicleEF	SBUS	0.01	4.5978e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6950e-003	2.6443e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	4.2000e-004	4.0527e-005
tblVehicleEF	SBUS	4.1680e-003	1.3129e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.94	0.41
tblVehicleEF	SBUS	2.1000e-003	7.1176e-004
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.38	0.05
tblVehicleEF	SBUS	0.01	3.4454e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.6100e-004	6.9371e-005
tblVehicleEF	SBUS	4.1680e-003	1.3129e-003

tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.35	0.59
tblVehicleEF	SBUS	2.1000e-003	7.1176e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.41	0.05
tblVehicleEF	UBUS	1.51	3.04
tblVehicleEF	UBUS	0.09	0.02
tblVehicleEF	UBUS	8.45	23.57
tblVehicleEF	UBUS	15.26	1.95
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	23.43
tblVehicleEF	UBUS	4.95	0.30
tblVehicleEF	UBUS	12.47	0.24
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003
tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	9.7430e-003	1.5548e-003
tblVehicleEF	UBUS	0.11	0.01
tblVehicleEF	UBUS	4.7860e-003	9.2419e-004
tblVehicleEF	UBUS	0.52	0.05
tblVehicleEF	UBUS	0.02	0.06

tblVehicleEF	UBUS	1.17	0.10
tblVehicleEF	UBUS	9.9960e-003	6.3901e-003
tblVehicleEF	UBUS	1.8100e-003	2.3183e-004
tblVehicleEF	UBUS	9.7430e-003	1.5548e-003
tblVehicleEF	UBUS	0.11	0.01
tblVehicleEF	UBUS	4.7860e-003	9.2419e-004
tblVehicleEF	UBUS	2.08	3.11
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.28	0.10
tblVehicleEF	UBUS	1.52	3.04
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	8.53	23.58
tblVehicleEF	UBUS	13.06	1.66
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	22.94
tblVehicleEF	UBUS	4.62	0.29
tblVehicleEF	UBUS	12.38	0.23
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003
tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	0.02	2.7780e-003
tblVehicleEF	UBUS	0.14	0.02

tblVehicleEF	UBUS	9.6600e-003	1.8853e-003
tblVehicleEF	UBUS	0.53	0.05
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.06	0.09
tblVehicleEF	UBUS	9.9970e-003	6.3902e-003
tblVehicleEF	UBUS	1.7720e-003	2.2697e-004
tblVehicleEF	UBUS	0.02	2.7780e-003
tblVehicleEF	UBUS	0.14	0.02
tblVehicleEF	UBUS	9.6600e-003	1.8853e-003
tblVehicleEF	UBUS	2.09	3.11
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.17	0.10
tblVehicleEF	UBUS	1.51	3.04
tblVehicleEF	UBUS	0.09	0.02
tblVehicleEF	UBUS	8.44	23.57
tblVehicleEF	UBUS	15.44	1.93
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	23.40
tblVehicleEF	UBUS	4.92	0.30
tblVehicleEF	UBUS	12.47	0.23
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003

tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	8.9770e-003	1.6330e-003
tblVehicleEF	UBUS	0.13	0.01
tblVehicleEF	UBUS	4.3820e-003	9.7705e-004
tblVehicleEF	UBUS	0.52	0.05
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.18	0.10
tblVehicleEF	UBUS	9.9960e-003	6.3901e-003
tblVehicleEF	UBUS	1.8130e-003	2.3157e-004
tblVehicleEF	UBUS	8.9770e-003	1.6330e-003
tblVehicleEF	UBUS	0.13	0.01
tblVehicleEF	UBUS	4.3820e-003	9.7705e-004
tblVehicleEF	UBUS	2.08	3.11
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.29	0.10
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	64.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	10.37	6.93
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	36.63	6.93
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.11	6.93

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	5.5700	40.5474	37.6678	0.0746	18.2675	2.0457	20.3131	9.9840	1.8820	11.8660	0.0000	7,283.0727	7,283.0727	1.4606	0.0000	7,319.5890
Maximum	**5.5700**	**40.5474**	**37.6678**	**0.0746**	**18.2675**	**2.0457**	**20.3131**	**9.9840**	**1.8820**	**11.8660**	**0.0000**	**7,283.0727**	**7,283.0727**	**1.4606**	**0.0000**	**7,319.5890**

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	5.5700	40.5474	37.6678	0.0746	7.2313	2.0457	9.2769	3.9225	1.8820	5.8045	0.0000	7,283.0727	7,283.0727	1.4606	0.0000	7,319.5889
Maximum	**5.5700**	**40.5474**	**37.6678**	**0.0746**	**7.2313**	**2.0457**	**9.2769**	**3.9225**	**1.8820**	**5.8045**	**0.0000**	**7,283.0727**	**7,283.0727**	**1.4606**	**0.0000**	**7,319.5889**

	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**	**60.41**	**0.00**	**54.33**	**60.71**	**0.00**	**51.08**	**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	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Energy	0.0191	0.1737	0.1459	1.0400e-003		0.0132	0.0132		0.0132	0.0132		208.4491	208.4491	4.0000e-003	3.8200e-003	209.6879
Mobile	0.3519	1.2036	2.9890	0.0101	0.8908	0.0189	0.9097	0.2381	0.0180	0.2561		1,043.8074	1,043.8074	0.0436		1,044.8972
Total	**0.8443**	**1.3775**	**3.1497**	**0.0112**	**0.8908**	**0.0322**	**0.9230**	**0.2381**	**0.0312**	**0.2694**		**1,252.2882**	**1,252.2882**	**0.0477**	**3.8200e-003**	**1,254.6188**

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	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Energy	0.0164	0.1491	0.1252	8.9000e-004		0.0113	0.0113		0.0113	0.0113		178.8852	178.8852	3.4300e-003	3.2800e-003	179.9482
Mobile	0.3519	1.2036	2.9890	0.0101	0.8908	0.0189	0.9097	0.2381	0.0180	0.2561		1,043.8074	1,043.8074	0.0436		1,044.8972
Total	**0.8416**	**1.3529**	**3.1291**	**0.0110**	**0.8908**	**0.0303**	**0.9211**	**0.2381**	**0.0293**	**0.2675**		**1,222.7242**	**1,222.7242**	**0.0471**	**3.2800e-003**	**1,224.8791**

	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	0.32	1.79	0.66	1.34	0.00	5.81	0.20	0.00	5.99	0.69	0.00	2.36	2.36	1.20	14.14	2.37

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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/12/2021	5	20	
4	Building Construction	Building Construction	3/13/2021	12/17/2021	5	200	
5	Paving	Paving	9/1/2021	12/17/2021	5	78	
6	Architectural Coating	Architectural Coating	9/1/2021	12/17/2021	5	78	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.81

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,858; Non-Residential Outdoor: 9,953; Striped Parking Area: 7,347 (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
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
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
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	102.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	96.00	38.00	0.00	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
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Clean Paved Roads

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					1.1132	0.0000	1.1132	0.1686	0.0000	0.1686			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**1.1132**	**1.5513**	**2.6646**	**0.1686**	**1.4411**	**1.6097**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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	0.0261	1.1160	0.1700	3.7400e-003	0.0892	3.4200e-003	0.0926	0.0245	3.2800e-003	0.0277		397.4185	397.4185	0.0259		398.0661
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	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0959**	**1.1579**	**0.6177**	**5.1800e-003**	**0.2569**	**4.4100e-003**	**0.2613**	**0.0689**	**4.1900e-003**	**0.0731**		**540.6976**	**540.6976**	**0.0292**		**541.4279**

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					0.4342	0.0000	0.4342	0.0657	0.0000	0.0657			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**	**0.4342**	**1.5513**	**1.9855**	**0.0657**	**1.4411**	**1.5068**	**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	0.0261	1.1160	0.1700	3.7400e-003	0.0831	3.4200e-003	0.0866	0.0230	3.2800e-003	0.0262		397.4185	397.4185	0.0259		398.0661
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	0.0698	0.0419	0.4476	1.4400e-003	0.1546	9.9000e-004	0.1555	0.0413	9.1000e-004	0.0422		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0959**	**1.1579**	**0.6177**	**5.1800e-003**	**0.2377**	**4.4100e-003**	**0.2421**	**0.0642**	**4.1900e-003**	**0.0684**		**540.6976**	**540.6976**	**0.0292**		**541.4279**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			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**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**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	0.0000	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	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			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**	**7.0458**	**2.0445**	**9.0903**	**3.8730**	**1.8809**	**5.7539**	**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	0.0000	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	0.0838	0.0503	0.5372	1.7200e-003	0.1855	1.1900e-003	0.1866	0.0495	1.0900e-003	0.0506		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.1855**	**1.1900e-003**	**0.1866**	**0.0495**	**1.0900e-003**	**0.0506**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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	0.0000	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	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			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**	**2.5554**	**1.1599**	**3.7153**	**1.3133**	**1.0671**	**2.3804**	**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	0.0000	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	0.0698	0.0419	0.4476	1.4400e-003	0.1546	9.9000e-004	0.1555	0.0413	9.1000e-004	0.0422		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1546**	**9.9000e-004**	**0.1555**	**0.0413**	**9.1000e-004**	**0.0422**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.5 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**

3.5 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	3.4862	0.7422	9.4800e-003	0.2433	6.8900e-003	0.2502	0.0701	6.5900e-003	0.0767		999.2982	999.2982	0.0828		1,001.3675
Worker	0.4466	0.2682	2.8649	9.2000e-003	1.0731	6.3200e-003	1.0794	0.2846	5.8200e-003	0.2904		916.9858	916.9858	0.0212		917.5156
Total	**0.5409**	**3.7544**	**3.6071**	**0.0187**	**1.3164**	**0.0132**	**1.3296**	**0.3546**	**0.0124**	**0.3671**		**1,916.2840**	**1,916.2840**	**0.1040**		**1,918.8831**

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**

3.5 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	3.4862	0.7422	9.4800e-003	0.2277	6.8900e-003	0.2346	0.0662	6.5900e-003	0.0728		999.2982	999.2982	0.0828		1,001.3675
Worker	0.4466	0.2682	2.8649	9.2000e-003	0.9891	6.3200e-003	0.9954	0.2640	5.8200e-003	0.2698		916.9858	916.9858	0.0212		917.5156
Total	**0.5409**	**3.7544**	**3.6071**	**0.0187**	**1.2168**	**0.0132**	**1.2300**	**0.3302**	**0.0124**	**0.3426**		**1,916.2840**	**1,916.2840**	**0.1040**		**1,918.8831**

3.6 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3499**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 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	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3499**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 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	0.0698	0.0419	0.4476	1.4400e-003	0.1546	9.9000e-004	0.1555	0.0413	9.1000e-004	0.0422		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1546**	**9.9000e-004**	**0.1555**	**0.0413**	**9.1000e-004**	**0.0422**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.7 Architectural Coating - 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					
Archit. Coating	1.4011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**1.6200**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 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	0.0884	0.0531	0.5670	1.8200e-003	0.2124	1.2500e-003	0.2136	0.0563	1.1500e-003	0.0575		181.4868	181.4868	4.1900e-003		181.5916
Total	**0.0884**	**0.0531**	**0.5670**	**1.8200e-003**	**0.2124**	**1.2500e-003**	**0.2136**	**0.0563**	**1.1500e-003**	**0.0575**		**181.4868**	**181.4868**	**4.1900e-003**		**181.5916**

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	1.4011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**1.6200**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 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	0.0884	0.0531	0.5670	1.8200e-003	0.1958	1.2500e-003	0.1970	0.0522	1.1500e-003	0.0534		181.4868	181.4868	4.1900e-003		181.5916
Total	**0.0884**	**0.0531**	**0.5670**	**1.8200e-003**	**0.1958**	**1.2500e-003**	**0.1970**	**0.0522**	**1.1500e-003**	**0.0534**		**181.4868**	**181.4868**	**4.1900e-003**		**181.5916**

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	0.3519	1.2036	2.9890	0.0101	0.8908	0.0189	0.9097	0.2381	0.0180	0.2561		1,043.807 4	1,043.807 4	0.0436		1,044.897 2
Unmitigated	0.3519	1.2036	2.9890	0.0101	0.8908	0.0189	0.9097	0.2381	0.0180	0.2561		1,043.807 4	1,043.807 4	0.0436		1,044.897 2

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	138.03	138.03	138.03	418,286	418,286
Total	138.03	138.03	138.03	418,286	418,286

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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Place of Worship	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.0164	0.1491	0.1252	8.9000e-004		0.0113	0.0113		0.0113	0.0113		178.8852	178.8852	3.4300e-003	3.2800e-003	179.9482
NaturalGas Unmitigated	0.0191	0.1737	0.1459	1.0400e-003		0.0132	0.0132		0.0132	0.0132		208.4491	208.4491	4.0000e-003	3.8200e-003	209.6879

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					
City Park	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
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
Place of Worship	1771.82	0.0191	0.1737	0.1459	1.0400e-003		0.0132	0.0132		0.0132	0.0132		208.4491	208.4491	4.0000e-003	3.8200e-003	209.6879
Total		**0.0191**	**0.1737**	**0.1459**	**1.0400e-003**		**0.0132**	**0.0132**		**0.0132**	**0.0132**		**208.4491**	**208.4491**	**4.0000e-003**	**3.8200e-003**	**209.6879**

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					
City Park	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
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
Place of Worship	1.52052	0.0164	0.1491	0.1252	8.9000e-004		0.0113	0.0113		0.0113	0.0113		178.8852	178.8852	3.4300e-003	3.2800e-003	179.9482
Total		**0.0164**	**0.1491**	**0.1252**	**8.9000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**		**178.8852**	**178.8852**	**3.4300e-003**	**3.2800e-003**	**179.9482**

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	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Unmitigated	0.4733	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337

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	0.0299					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3800e-003	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Total	**0.4733**	**1.4000e-004**	**0.0148**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0316**	**0.0316**	**8.0000e-005**		**0.0337**

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	0.0299					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3800e-003	1.4000e-004	0.0148	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0316	0.0316	8.0000e-005		0.0337
Total	**0.4733**	**1.4000e-004**	**0.0148**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0316**	**0.0316**	**8.0000e-005**		**0.0337**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Orangecrest Church

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	19.91	1000sqft	0.46	19,905.00	0
Other Asphalt Surfaces	122.44	1000sqft	2.81	122,443.00	0
City Park	2.00	Acre	2.00	87,370.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - (Place of Worship) five buildings total 19,905 SF, landscape (city park) = 87,370 SF, (Parking) includes parking, drive aisles, and other surfaces = 122,443 SF

Construction Phase - anticipated schedule. construction, paving, and painting phases anticipated to overlap

Demolition -

Grading - balanced site

Architectural Coating - Rule 1113

Vehicle Trips - Based on traffic study (ITE Code 560) 138 daily trips/ 19.905 = 6.93293142426525998492840994724 94

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Vehicle Emission Factors - EMFAC 2017 - Riverside County (SC) 2021 with SAFE Rule

Area Coating - Rule 1113

Construction Off-road Equipment Mitigation - Rule 403

Area Mitigation -

Energy Mitigation - CEC - 2019 standards will reduce nonresidential energy use by 30% over 2016 standard, due mainly to lighting upgrades

Water Mitigation - current building code - low flow fixtures and water efficient landscape

Waste Mitigation - AB 939 - divert at least 50% of solid waste from landfills

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

tblConstructionPhase	NumDays	20.00	78.00
tblConstructionPhase	NumDays	230.00	200.00
tblConstructionPhase	NumDays	20.00	78.00
tblLandUse	LandUseSquareFeet	19,910.00	19,905.00
tblLandUse	LandUseSquareFeet	122,440.00	122,443.00
tblLandUse	LandUseSquareFeet	87,120.00	87,370.00
tblVehicleEF	HHD	1.43	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.10	2.1311e-007
tblVehicleEF	HHD	3.28	5.70
tblVehicleEF	HHD	0.46	0.43
tblVehicleEF	HHD	1.46	5.1287e-003
tblVehicleEF	HHD	6,485.38	1,098.23
tblVehicleEF	HHD	1,461.92	1,379.84
tblVehicleEF	HHD	4.62	0.04
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tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.06
tblVehicleEF	HHD	3.8000e-005	6.9620e-007
tblVehicleEF	HHD	0.01	7.7692e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8680e-003	8.8102e-003
tblVehicleEF	HHD	0.01	0.05

tblVehicleEF	HHD	3.5000e-005	6.4013e-007
tblVehicleEF	HHD	8.4000e-005	3.9431e-006
tblVehicleEF	HHD	2.5800e-003	1.4075e-004
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tblVehicleEF	HHD	4.8000e-005	2.4154e-006
tblVehicleEF	HHD	0.07	0.09
tblVehicleEF	HHD	1.8000e-004	7.3333e-004
tblVehicleEF	HHD	0.05	1.0921e-006
tblVehicleEF	HHD	0.06	0.01
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	7.1000e-005	4.3455e-007
tblVehicleEF	HHD	8.4000e-005	3.9431e-006
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tblVehicleEF	HHD	4.8000e-005	2.4154e-006
tblVehicleEF	HHD	0.11	0.12
tblVehicleEF	HHD	1.8000e-004	7.3333e-004
tblVehicleEF	HHD	0.05	1.1957e-006
tblVehicleEF	HHD	1.35	0.02
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.10	2.0331e-007
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tblVehicleEF	HHD	6,867.98	1,095.85
tblVehicleEF	HHD	1,461.92	1,379.84
tblVehicleEF	HHD	4.62	0.04

tblVehicleEF	HHD	27.25	5.75
tblVehicleEF	HHD	2.54	3.21
tblVehicleEF	HHD	20.32	2.01
tblVehicleEF	HHD	0.01	7.5760e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.06
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tblVehicleEF	HHD	0.01	7.2482e-003
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tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	6.9000e-005	4.3003e-007
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tblVehicleEF	HHD	2.9560e-003	1.5586e-004
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tblVehicleEF	HHD	9.2000e-005	5.0918e-006

tblVehicleEF	HHD	0.11	0.12
tblVehicleEF	HHD	1.8400e-004	7.4800e-004
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tblVehicleEF	HHD	0.03	0.03
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tblVehicleEF	HHD	1,461.92	1,379.84
tblVehicleEF	HHD	4.62	0.04
tblVehicleEF	HHD	25.25	6.14
tblVehicleEF	HHD	2.67	3.35
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tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.06
tblVehicleEF	HHD	3.8000e-005	6.9620e-007
tblVehicleEF	HHD	0.02	8.4887e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8680e-003	8.8102e-003
tblVehicleEF	HHD	0.01	0.05
tblVehicleEF	HHD	3.5000e-005	6.4013e-007
tblVehicleEF	HHD	6.7000e-005	4.1581e-006
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tblVehicleEF	HHD	0.91	0.42
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tblVehicleEF	HHD	1.9200e-004	7.7684e-004
tblVehicleEF	HHD	0.05	1.0839e-006
tblVehicleEF	HHD	0.06	0.01
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	7.1000e-005	4.3370e-007
tblVehicleEF	HHD	6.7000e-005	4.1581e-006
tblVehicleEF	HHD	2.7490e-003	1.5944e-004
tblVehicleEF	HHD	1.05	0.48
tblVehicleEF	HHD	4.1000e-005	2.6509e-006
tblVehicleEF	HHD	0.11	0.12
tblVehicleEF	HHD	1.9200e-004	7.7684e-004
tblVehicleEF	HHD	0.05	1.1867e-006
tblVehicleEF	LDA	4.0430e-003	2.4275e-003
tblVehicleEF	LDA	5.4670e-003	0.05
tblVehicleEF	LDA	0.58	0.65
tblVehicleEF	LDA	1.16	2.15
tblVehicleEF	LDA	255.91	264.02
tblVehicleEF	LDA	58.81	54.78
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.6140e-003	1.4414e-003
tblVehicleEF	LDA	2.2650e-003	1.9145e-003

tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4880e-003	1.3280e-003
tblVehicleEF	LDA	2.0830e-003	1.7604e-003
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	9.3165e-003
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDA	2.5630e-003	2.6119e-003
tblVehicleEF	LDA	6.0800e-004	5.4212e-004
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDA	4.5900e-003	2.7357e-003
tblVehicleEF	LDA	4.7470e-003	0.05
tblVehicleEF	LDA	0.71	0.77
tblVehicleEF	LDA	1.02	1.80
tblVehicleEF	LDA	278.73	285.50
tblVehicleEF	LDA	58.81	54.12
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.17
tblVehicleEF	LDA	0.04	0.04

tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.6140e-003	1.4414e-003
tblVehicleEF	LDA	2.2650e-003	1.9145e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4880e-003	1.3280e-003
tblVehicleEF	LDA	2.0830e-003	1.7604e-003
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.07	0.09
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.20
tblVehicleEF	LDA	2.7930e-003	2.8244e-003
tblVehicleEF	LDA	6.0500e-004	5.3561e-004
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.07	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.22
tblVehicleEF	LDA	3.8980e-003	2.3855e-003
tblVehicleEF	LDA	5.6140e-003	0.05
tblVehicleEF	LDA	0.54	0.62
tblVehicleEF	LDA	1.19	2.13
tblVehicleEF	LDA	249.57	260.40
tblVehicleEF	LDA	58.81	54.76

tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.19
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.6140e-003	1.4414e-003
tblVehicleEF	LDA	2.2650e-003	1.9145e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4880e-003	1.3280e-003
tblVehicleEF	LDA	2.0830e-003	1.7604e-003
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	9.8140e-003	9.1467e-003
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDA	2.4990e-003	2.5760e-003
tblVehicleEF	LDA	6.0800e-004	5.4186e-004
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.08	0.25
tblVehicleEF	LDT1	0.01	7.6986e-003
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	1.46	1.55

tblVehicleEF	LDT1	3.40	2.46
tblVehicleEF	LDT1	315.98	313.01
tblVehicleEF	LDT1	72.28	66.81
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.21	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.21	0.19
tblVehicleEF	LDT1	0.35	0.27
tblVehicleEF	LDT1	0.14	0.00
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.20	0.87
tblVehicleEF	LDT1	0.24	0.46
tblVehicleEF	LDT1	3.1780e-003	3.0974e-003
tblVehicleEF	LDT1	7.8300e-004	6.6113e-004
tblVehicleEF	LDT1	0.21	0.19
tblVehicleEF	LDT1	0.35	0.27
tblVehicleEF	LDT1	0.14	0.13
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.20	0.87
tblVehicleEF	LDT1	0.26	0.50

tblVehicleEF	LDT1	0.01	8.5808e-003
tblVehicleEF	LDT1	0.02	0.08
tblVehicleEF	LDT1	1.76	1.83
tblVehicleEF	LDT1	2.99	2.05
tblVehicleEF	LDT1	343.19	335.41
tblVehicleEF	LDT1	72.28	65.94
tblVehicleEF	LDT1	0.13	0.13
tblVehicleEF	LDT1	0.20	0.29
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.41	0.36
tblVehicleEF	LDT1	0.43	0.32
tblVehicleEF	LDT1	0.27	0.00
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.20	0.85
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	3.4550e-003	3.3191e-003
tblVehicleEF	LDT1	7.7500e-004	6.5255e-004
tblVehicleEF	LDT1	0.41	0.36
tblVehicleEF	LDT1	0.43	0.32
tblVehicleEF	LDT1	0.27	0.26

tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.20	0.85
tblVehicleEF	LDT1	0.23	0.43
tblVehicleEF	LDT1	0.01	7.5727e-003
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	1.37	1.50
tblVehicleEF	LDT1	3.46	2.44
tblVehicleEF	LDT1	307.88	309.22
tblVehicleEF	LDT1	72.28	66.78
tblVehicleEF	LDT1	0.14	0.13
tblVehicleEF	LDT1	0.21	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5300e-003	2.2623e-003
tblVehicleEF	LDT1	3.6970e-003	2.9788e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3290e-003	2.0820e-003
tblVehicleEF	LDT1	3.4000e-003	2.7391e-003
tblVehicleEF	LDT1	0.18	0.20
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.12	0.00
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.23	1.01
tblVehicleEF	LDT1	0.25	0.46
tblVehicleEF	LDT1	3.0960e-003	3.0600e-003
tblVehicleEF	LDT1	7.8400e-004	6.6081e-004

tblVehicleEF	LDT1	0.18	0.20
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.12	0.13
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.23	1.02
tblVehicleEF	LDT1	0.27	0.50
tblVehicleEF	LDT2	5.6080e-003	4.0030e-003
tblVehicleEF	LDT2	7.2840e-003	0.07
tblVehicleEF	LDT2	0.76	0.93
tblVehicleEF	LDT2	1.53	2.77
tblVehicleEF	LDT2	355.02	334.40
tblVehicleEF	LDT2	81.24	71.60
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003
tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.06	0.42

tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LDT2	3.5560e-003	3.3085e-003
tblVehicleEF	LDT2	8.3800e-004	7.0852e-004
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.11	0.37
tblVehicleEF	LDT2	6.3630e-003	4.4905e-003
tblVehicleEF	LDT2	6.3270e-003	0.06
tblVehicleEF	LDT2	0.93	1.11
tblVehicleEF	LDT2	1.35	2.31
tblVehicleEF	LDT2	386.34	356.10
tblVehicleEF	LDT2	81.24	70.71
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.13	0.29
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003
tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.14	0.17
tblVehicleEF	LDT2	0.14	0.15

tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.29
tblVehicleEF	LDT2	3.8710e-003	3.5232e-003
tblVehicleEF	LDT2	8.3500e-004	6.9977e-004
tblVehicleEF	LDT2	0.14	0.17
tblVehicleEF	LDT2	0.14	0.15
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	5.3900e-003	3.9361e-003
tblVehicleEF	LDT2	7.4940e-003	0.07
tblVehicleEF	LDT2	0.71	0.90
tblVehicleEF	LDT2	1.57	2.75
tblVehicleEF	LDT2	345.65	330.74
tblVehicleEF	LDT2	81.24	71.57
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6030e-003	1.4809e-003
tblVehicleEF	LDT2	2.3320e-003	1.9495e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.4740e-003	1.3632e-003

tblVehicleEF	LDT2	2.1450e-003	1.7925e-003
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.07	0.49
tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LDT2	3.4620e-003	3.2722e-003
tblVehicleEF	LDT2	8.3900e-004	7.0821e-004
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.49
tblVehicleEF	LDT2	0.11	0.37
tblVehicleEF	LHD1	5.4460e-003	4.7711e-003
tblVehicleEF	LHD1	0.01	5.3525e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.96	0.72
tblVehicleEF	LHD1	2.41	0.95
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.36
tblVehicleEF	LHD1	30.36	10.31
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.21	1.68
tblVehicleEF	LHD1	0.99	0.31

tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	3.8710e-003	2.6459e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.9010e-003	1.3629e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.31	0.48
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1767e-003
tblVehicleEF	LHD1	3.4900e-004	1.0205e-004
tblVehicleEF	LHD1	3.8710e-003	2.6459e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.9010e-003	1.3629e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.31	0.48
tblVehicleEF	LHD1	0.28	0.08

tblVehicleEF	LHD1	5.4460e-003	4.7847e-003
tblVehicleEF	LHD1	0.01	5.4445e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.97	0.74
tblVehicleEF	LHD1	2.29	0.90
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.38
tblVehicleEF	LHD1	30.36	10.22
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.08	1.58
tblVehicleEF	LHD1	0.96	0.29
tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	7.2450e-003	4.7126e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.6380e-003	2.6331e-003
tblVehicleEF	LHD1	0.08	0.06

tblVehicleEF	LHD1	0.32	0.48
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1769e-003
tblVehicleEF	LHD1	3.4700e-004	1.0116e-004
tblVehicleEF	LHD1	7.2450e-003	4.7126e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	3.6380e-003	2.6331e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.32	0.48
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	5.4460e-003	4.7735e-003
tblVehicleEF	LHD1	0.01	5.3625e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.96	0.73
tblVehicleEF	LHD1	2.41	0.94
tblVehicleEF	LHD1	9.26	9.49
tblVehicleEF	LHD1	607.95	635.36
tblVehicleEF	LHD1	30.36	10.30
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.18	1.65
tblVehicleEF	LHD1	0.99	0.30
tblVehicleEF	LHD1	9.7200e-004	9.9729e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01

tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7100e-004	2.2853e-004
tblVehicleEF	LHD1	9.3000e-004	9.5415e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5390e-003	2.5132e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.0100e-004	2.1012e-004
tblVehicleEF	LHD1	3.4570e-003	2.8041e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.7350e-003	1.4343e-003
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.33	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.3000e-005	9.1676e-005
tblVehicleEF	LHD1	5.9620e-003	6.1767e-003
tblVehicleEF	LHD1	3.4900e-004	1.0189e-004
tblVehicleEF	LHD1	3.4570e-003	2.8041e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.7350e-003	1.4343e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.33	0.52
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD2	3.6660e-003	2.9071e-003
tblVehicleEF	LHD2	4.5290e-003	3.7987e-003
tblVehicleEF	LHD2	8.3110e-003	8.1462e-003

tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.50	0.52
tblVehicleEF	LHD2	1.15	0.51
tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.61
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.71	1.83
tblVehicleEF	LHD2	0.53	0.17
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	1.4980e-003	1.2263e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.7800e-004	6.4826e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004

tblVehicleEF	LHD2	5.8740e-003	6.0523e-003
tblVehicleEF	LHD2	2.5700e-004	6.5406e-005
tblVehicleEF	LHD2	1.4980e-003	1.2263e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.7800e-004	6.4826e-004
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	LHD2	3.6660e-003	2.9149e-003
tblVehicleEF	LHD2	4.5800e-003	3.8275e-003
tblVehicleEF	LHD2	8.0210e-003	7.8341e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.51	0.52
tblVehicleEF	LHD2	1.10	0.48
tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.56
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.62	1.73
tblVehicleEF	LHD2	0.51	0.16
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003

tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	2.8320e-003	2.1864e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.4720e-003	1.2508e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004
tblVehicleEF	LHD2	5.8740e-003	6.0524e-003
tblVehicleEF	LHD2	2.5600e-004	6.4938e-005
tblVehicleEF	LHD2	2.8320e-003	2.1864e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.4720e-003	1.2508e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.22
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	LHD2	3.6660e-003	2.9085e-003
tblVehicleEF	LHD2	4.5170e-003	3.8023e-003
tblVehicleEF	LHD2	8.3600e-003	8.0900e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.50	0.52
tblVehicleEF	LHD2	1.16	0.50

tblVehicleEF	LHD2	14.48	15.14
tblVehicleEF	LHD2	604.20	629.09
tblVehicleEF	LHD2	23.56	6.60
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	1.70	1.81
tblVehicleEF	LHD2	0.53	0.17
tblVehicleEF	LHD2	1.3360e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.0545e-004
tblVehicleEF	LHD2	1.2780e-003	1.4369e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6970e-003	2.7369e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5600e-004	9.6959e-005
tblVehicleEF	LHD2	1.1910e-003	1.2710e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.6000e-004	6.7445e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.09	0.24
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4445e-004
tblVehicleEF	LHD2	5.8740e-003	6.0523e-003
tblVehicleEF	LHD2	2.5700e-004	6.5323e-005
tblVehicleEF	LHD2	1.1910e-003	1.2710e-003

tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.6000e-004	6.7445e-004
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.09	0.24
tblVehicleEF	LHD2	0.12	0.04
tblVehicleEF	MCY	0.42	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.52	19.50
tblVehicleEF	MCY	9.67	8.60
tblVehicleEF	MCY	165.74	207.81
tblVehicleEF	MCY	46.23	60.96
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003
tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	1.69	1.42
tblVehicleEF	MCY	0.85	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.15	2.15
tblVehicleEF	MCY	0.57	1.87

tblVehicleEF	MCY	2.08	1.85
tblVehicleEF	MCY	2.0380e-003	2.0565e-003
tblVehicleEF	MCY	6.8100e-004	6.0328e-004
tblVehicleEF	MCY	1.69	1.42
tblVehicleEF	MCY	0.85	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.65	2.64
tblVehicleEF	MCY	0.57	1.87
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.14	0.22
tblVehicleEF	MCY	20.23	19.46
tblVehicleEF	MCY	9.11	7.90
tblVehicleEF	MCY	165.74	207.59
tblVehicleEF	MCY	46.23	59.07
tblVehicleEF	MCY	0.98	0.98
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003
tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	3.35	2.73
tblVehicleEF	MCY	1.24	1.09

tblVehicleEF	MCY	2.10	1.72
tblVehicleEF	MCY	2.13	2.10
tblVehicleEF	MCY	0.57	1.84
tblVehicleEF	MCY	1.86	1.62
tblVehicleEF	MCY	2.0490e-003	2.0543e-003
tblVehicleEF	MCY	6.6500e-004	5.8457e-004
tblVehicleEF	MCY	3.35	2.73
tblVehicleEF	MCY	1.24	1.09
tblVehicleEF	MCY	2.10	1.72
tblVehicleEF	MCY	2.62	2.59
tblVehicleEF	MCY	0.57	1.84
tblVehicleEF	MCY	2.02	1.76
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	19.04	18.91
tblVehicleEF	MCY	9.62	8.38
tblVehicleEF	MCY	165.74	206.80
tblVehicleEF	MCY	46.23	60.47
tblVehicleEF	MCY	1.12	1.10
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.7750e-003	1.7168e-003
tblVehicleEF	MCY	3.4010e-003	2.8688e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.6600e-003	1.6067e-003

tblVehicleEF	MCY	3.2060e-003	2.7030e-003
tblVehicleEF	MCY	1.60	1.63
tblVehicleEF	MCY	1.05	1.06
tblVehicleEF	MCY	0.74	0.76
tblVehicleEF	MCY	2.15	2.13
tblVehicleEF	MCY	0.65	2.13
tblVehicleEF	MCY	2.08	1.81
tblVehicleEF	MCY	2.0310e-003	2.0465e-003
tblVehicleEF	MCY	6.8100e-004	5.9842e-004
tblVehicleEF	MCY	1.60	1.63
tblVehicleEF	MCY	1.05	1.06
tblVehicleEF	MCY	0.74	0.76
tblVehicleEF	MCY	2.64	2.62
tblVehicleEF	MCY	0.65	2.13
tblVehicleEF	MCY	2.27	1.97
tblVehicleEF	MDV	0.01	5.5311e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.42	1.15
tblVehicleEF	MDV	3.18	3.31
tblVehicleEF	MDV	488.89	418.28
tblVehicleEF	MDV	110.15	88.92
tblVehicleEF	MDV	0.17	0.12
tblVehicleEF	MDV	0.31	0.39
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003

tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.25	0.45
tblVehicleEF	MDV	4.9000e-003	4.1357e-003
tblVehicleEF	MDV	1.1570e-003	8.7994e-004
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.27	0.50
tblVehicleEF	MDV	0.01	6.1666e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.73	1.36
tblVehicleEF	MDV	2.81	2.77
tblVehicleEF	MDV	530.71	441.48
tblVehicleEF	MDV	110.15	87.84
tblVehicleEF	MDV	0.16	0.11
tblVehicleEF	MDV	0.30	0.37
tblVehicleEF	MDV	0.04	0.04

tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.22	0.20
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.47
tblVehicleEF	MDV	0.21	0.39
tblVehicleEF	MDV	5.3230e-003	4.3652e-003
tblVehicleEF	MDV	1.1510e-003	8.6926e-004
tblVehicleEF	MDV	0.22	0.20
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.11	0.47
tblVehicleEF	MDV	0.23	0.42
tblVehicleEF	MDV	0.01	5.4334e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.33	1.11
tblVehicleEF	MDV	3.24	3.29
tblVehicleEF	MDV	476.42	414.36
tblVehicleEF	MDV	110.15	88.88

tblVehicleEF	MDV	0.16	0.11
tblVehicleEF	MDV	0.31	0.39
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7110e-003	1.5593e-003
tblVehicleEF	MDV	2.4630e-003	2.0458e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5780e-003	1.4390e-003
tblVehicleEF	MDV	2.2660e-003	1.8823e-003
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.13	0.55
tblVehicleEF	MDV	0.25	0.45
tblVehicleEF	MDV	4.7750e-003	4.0969e-003
tblVehicleEF	MDV	1.1590e-003	8.7956e-004
tblVehicleEF	MDV	0.09	0.10
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.13	0.55
tblVehicleEF	MDV	0.28	0.50
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.70	1.37

tblVehicleEF	MH	5.98	2.14
tblVehicleEF	MH	1,002.10	1,470.05
tblVehicleEF	MH	57.67	18.94
tblVehicleEF	MH	1.67	1.62
tblVehicleEF	MH	0.86	0.23
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	1.56	1.15
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.54	0.42
tblVehicleEF	MH	0.09	0.06
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	9.9460e-003	0.01
tblVehicleEF	MH	6.8100e-004	1.8738e-004
tblVehicleEF	MH	1.56	1.15
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.54	0.42
tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.39	0.11

tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.78	1.41
tblVehicleEF	MH	5.56	1.98
tblVehicleEF	MH	1,002.10	1,470.11
tblVehicleEF	MH	57.67	18.68
tblVehicleEF	MH	1.55	1.50
tblVehicleEF	MH	0.83	0.22
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	2.87	2.01
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	1.06	0.82
tblVehicleEF	MH	0.10	0.06
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.34	0.09
tblVehicleEF	MH	9.9470e-003	0.01
tblVehicleEF	MH	6.7400e-004	1.8485e-004
tblVehicleEF	MH	2.87	2.01
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	1.06	0.82

tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.48
tblVehicleEF	MH	0.37	0.10
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.70	1.37
tblVehicleEF	MH	6.02	2.13
tblVehicleEF	MH	1,002.10	1,470.05
tblVehicleEF	MH	57.67	18.92
tblVehicleEF	MH	1.65	1.58
tblVehicleEF	MH	0.86	0.23
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.0860e-003	2.5050e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2460e-003	3.2860e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	9.9800e-004	2.3032e-004
tblVehicleEF	MH	1.58	1.31
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.53	0.45
tblVehicleEF	MH	0.09	0.06
tblVehicleEF	MH	0.03	1.56
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	9.9460e-003	0.01
tblVehicleEF	MH	6.8200e-004	1.8725e-004

tblVehicleEF	MH	1.58	1.31
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.53	0.45
tblVehicleEF	MH	0.13	0.08
tblVehicleEF	MH	0.03	1.56
tblVehicleEF	MH	0.39	0.11
tblVehicleEF	MHD	0.02	2.7460e-003
tblVehicleEF	MHD	3.7220e-003	5.6867e-003
tblVehicleEF	MHD	0.06	7.1017e-003
tblVehicleEF	MHD	0.35	0.32
tblVehicleEF	MHD	0.28	0.52
tblVehicleEF	MHD	6.06	0.85
tblVehicleEF	MHD	151.96	73.08
tblVehicleEF	MHD	1,066.63	977.33
tblVehicleEF	MHD	55.49	7.02
tblVehicleEF	MHD	0.65	0.69
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tblVehicleEF	MHD	11.48	1.18
tblVehicleEF	MHD	1.0680e-003	2.4553e-003
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
tblVehicleEF	MHD	7.8800e-004	8.3075e-005
tblVehicleEF	MHD	1.0220e-003	2.3490e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08

tblVehicleEF	MHD	7.2400e-004	7.6384e-005
tblVehicleEF	MHD	1.7450e-003	4.7261e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	8.5800e-004	2.4808e-004
tblVehicleEF	MHD	0.03	0.11
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.37	0.04
tblVehicleEF	MHD	1.4610e-003	6.9264e-004
tblVehicleEF	MHD	0.01	9.2823e-003
tblVehicleEF	MHD	6.6100e-004	6.9447e-005
tblVehicleEF	MHD	1.7450e-003	4.7261e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	8.5800e-004	2.4808e-004
tblVehicleEF	MHD	0.04	0.13
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.02	2.6082e-003
tblVehicleEF	MHD	3.7740e-003	5.7084e-003
tblVehicleEF	MHD	0.05	6.8222e-003
tblVehicleEF	MHD	0.26	0.26
tblVehicleEF	MHD	0.28	0.52
tblVehicleEF	MHD	5.78	0.80
tblVehicleEF	MHD	160.96	74.59
tblVehicleEF	MHD	1,066.63	977.34
tblVehicleEF	MHD	55.49	6.94

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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
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tblVehicleEF	MHD	8.6100e-004	1.9827e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08
tblVehicleEF	MHD	7.2400e-004	7.6384e-005
tblVehicleEF	MHD	3.3760e-003	8.5308e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.6840e-003	4.9480e-004
tblVehicleEF	MHD	0.03	0.11
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.36	0.04
tblVehicleEF	MHD	1.5460e-003	7.0697e-004
tblVehicleEF	MHD	0.01	9.2823e-003
tblVehicleEF	MHD	6.5600e-004	6.8643e-005
tblVehicleEF	MHD	3.3760e-003	8.5308e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	1.6840e-003	4.9480e-004

tblVehicleEF	MHD	0.04	0.13
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.39	0.04
tblVehicleEF	MHD	0.02	2.9480e-003
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tblVehicleEF	MHD	0.06	7.0368e-003
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tblVehicleEF	MHD	0.27	0.52
tblVehicleEF	MHD	6.14	0.84
tblVehicleEF	MHD	139.53	71.00
tblVehicleEF	MHD	1,066.63	977.33
tblVehicleEF	MHD	55.49	7.00
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tblVehicleEF	MHD	11.49	1.18
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.4490e-003	0.09
tblVehicleEF	MHD	7.8800e-004	8.3075e-005
tblVehicleEF	MHD	1.2430e-003	2.8549e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.1670e-003	0.08
tblVehicleEF	MHD	7.2400e-004	7.6384e-005
tblVehicleEF	MHD	1.3320e-003	5.0561e-004
tblVehicleEF	MHD	0.05	0.02

tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.7900e-004	2.6308e-004
tblVehicleEF	MHD	0.03	0.11
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.37	0.04
tblVehicleEF	MHD	1.3440e-003	6.7281e-004
tblVehicleEF	MHD	0.01	9.2823e-003
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tblVehicleEF	MHD	1.3320e-003	5.0561e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.7900e-004	2.6308e-004
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tblVehicleEF	OBUS	0.27	0.48
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tblVehicleEF	OBUS	2.18	0.56

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tblVehicleEF	OBUS	0.01	0.01
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tblVehicleEF	OBUS	8.2300e-004	2.0944e-004
tblVehicleEF	OBUS	1.1600e-004	1.6349e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
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tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	9.3000e-004	1.1509e-003
tblVehicleEF	OBUS	0.04	0.10
tblVehicleEF	OBUS	0.05	0.29
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tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.0900e-004	2.1540e-004
tblVehicleEF	OBUS	2.1800e-003	2.6435e-003
tblVehicleEF	OBUS	0.02	0.03
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tblVehicleEF	OBUS	0.42	0.15

tblVehicleEF	OBUS	0.01	8.8556e-003
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tblVehicleEF	OBUS	2.14	0.54
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tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.0450e-003	0.05
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tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	5.7680e-003	0.04
tblVehicleEF	OBUS	7.5700e-004	1.9258e-004
tblVehicleEF	OBUS	4.0690e-003	4.6625e-003
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tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.7890e-003	2.2351e-003
tblVehicleEF	OBUS	0.04	0.10

tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	7.6100e-004	6.6259e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.0200e-004	2.1210e-004
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tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	6.0450e-003	0.05
tblVehicleEF	OBUS	8.2300e-004	2.0944e-004
tblVehicleEF	OBUS	1.4100e-004	1.9852e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
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tblVehicleEF	OBUS	7.5700e-004	1.9258e-004
tblVehicleEF	OBUS	1.8870e-003	2.7905e-003
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tblVehicleEF	UBUS	0.05	2.0479e-003
tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	9.7430e-003	1.5548e-003
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tblVehicleEF	UBUS	4.7860e-003	9.2419e-004
tblVehicleEF	UBUS	0.52	0.05
tblVehicleEF	UBUS	0.02	0.06

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tblVehicleEF	UBUS	1.8100e-003	2.3183e-004
tblVehicleEF	UBUS	9.7430e-003	1.5548e-003
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tblVehicleEF	UBUS	12.38	0.23
tblVehicleEF	UBUS	0.50	0.09
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tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003
tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	0.02	2.7780e-003
tblVehicleEF	UBUS	0.14	0.02

tblVehicleEF	UBUS	9.6600e-003	1.8853e-003
tblVehicleEF	UBUS	0.53	0.05
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.06	0.09
tblVehicleEF	UBUS	9.9970e-003	6.3902e-003
tblVehicleEF	UBUS	1.7720e-003	2.2697e-004
tblVehicleEF	UBUS	0.02	2.7780e-003
tblVehicleEF	UBUS	0.14	0.02
tblVehicleEF	UBUS	9.6600e-003	1.8853e-003
tblVehicleEF	UBUS	2.09	3.11
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	1.17	0.10
tblVehicleEF	UBUS	1.51	3.04
tblVehicleEF	UBUS	0.09	0.02
tblVehicleEF	UBUS	8.44	23.57
tblVehicleEF	UBUS	15.44	1.93
tblVehicleEF	UBUS	1,822.40	1,641.55
tblVehicleEF	UBUS	153.45	23.40
tblVehicleEF	UBUS	4.92	0.30
tblVehicleEF	UBUS	12.47	0.23
tblVehicleEF	UBUS	0.50	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.06	2.1611e-003
tblVehicleEF	UBUS	1.4200e-003	2.0913e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0573e-003
tblVehicleEF	UBUS	0.05	2.0479e-003

tblVehicleEF	UBUS	1.3060e-003	1.9228e-004
tblVehicleEF	UBUS	8.9770e-003	1.6330e-003
tblVehicleEF	UBUS	0.13	0.01
tblVehicleEF	UBUS	4.3820e-003	9.7705e-004
tblVehicleEF	UBUS	0.52	0.05
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.18	0.10
tblVehicleEF	UBUS	9.9960e-003	6.3901e-003
tblVehicleEF	UBUS	1.8130e-003	2.3157e-004
tblVehicleEF	UBUS	8.9770e-003	1.6330e-003
tblVehicleEF	UBUS	0.13	0.01
tblVehicleEF	UBUS	4.3820e-003	9.7705e-004
tblVehicleEF	UBUS	2.08	3.11
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.29	0.10
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	64.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	10.37	6.93
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	36.63	6.93
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.11	6.93

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	0.4378	3.4692	3.2058	6.6900e-003	0.3162	0.1648	0.4810	0.1252	0.1540	0.2792	0.0000	593.4098	593.4098	0.1149	0.0000	596.2814
Maximum	**0.4378**	**3.4692**	**3.2058**	**6.6900e-003**	**0.3162**	**0.1648**	**0.4810**	**0.1252**	**0.1540**	**0.2792**	**0.0000**	**593.4098**	**593.4098**	**0.1149**	**0.0000**	**596.2814**

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	0.4378	3.4692	3.2058	6.6900e-003	0.2031	0.1648	0.3678	0.0706	0.1540	0.2245	0.0000	593.4093	593.4093	0.1149	0.0000	596.2809
Maximum	**0.4378**	**3.4692**	**3.2058**	**6.6900e-003**	**0.2031**	**0.1648**	**0.3678**	**0.0706**	**0.1540**	**0.2245**	**0.0000**	**593.4093**	**593.4093**	**0.1149**	**0.0000**	**596.2809**

	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**	**35.78**	**0.00**	**23.53**	**43.63**	**0.00**	**19.57**	**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	1-4-2021	4-3-2021	1.0126	1.0126
2	4-4-2021	7-3-2021	0.7687	0.7687
3	7-4-2021	9-30-2021	0.9411	0.9411
		Highest	1.0126	1.0126

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	0.0863	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5800e-003	3.5800e-003	1.0000e-005	0.0000	3.8200e-003
Energy	3.4900e-003	0.0317	0.0266	1.9000e-004		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003	0.0000	155.9961	155.9961	3.3200e-003	1.1800e-003	156.4315
Mobile	0.0613	0.2215	0.5565	1.8600e-003	0.1595	3.4400e-003	0.1629	0.0427	3.2600e-003	0.0460	0.0000	173.4880	173.4880	7.2200e-003	0.0000	173.6686
Waste						0.0000	0.0000		0.0000	0.0000	23.0720	0.0000	23.0720	1.3635	0.0000	57.1598
Water						0.0000	0.0000		0.0000	0.0000	0.1976	27.3062	27.5039	0.0209	6.0000e-004	28.2059
Total	**0.1511**	**0.2533**	**0.5850**	**2.0500e-003**	**0.1595**	**5.8600e-003**	**0.1653**	**0.0427**	**5.6800e-003**	**0.0484**	**23.2696**	**356.7940**	**380.0636**	**1.3950**	**1.7800e-003**	**415.4696**

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	0.0863	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5800e-003	3.5800e-003	1.0000e-005	0.0000	3.8200e-003
Energy	2.9900e-003	0.0272	0.0229	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	143.2020	143.2020	3.0500e-003	1.0600e-003	143.5933
Mobile	0.0613	0.2215	0.5565	1.8600e-003	0.1595	3.4400e-003	0.1629	0.0427	3.2600e-003	0.0460	0.0000	173.4880	173.4880	7.2200e-003	0.0000	173.6686
Waste						0.0000	0.0000		0.0000	0.0000	11.5360	0.0000	11.5360	0.6818	0.0000	28.5799
Water						0.0000	0.0000		0.0000	0.0000	0.1581	24.9626	25.1207	0.0168	5.0000e-004	25.6883
Total	**0.1506**	**0.2488**	**0.5812**	**2.0200e-003**	**0.1595**	**5.5200e-003**	**0.1650**	**0.0427**	**5.3400e-003**	**0.0480**	**11.6941**	**341.6562**	**353.3503**	**0.7088**	**1.5600e-003**	**371.5338**

	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	**0.33**	**1.77**	**0.65**	**1.46**	**0.00**	**5.80**	**0.21**	**0.00**	**5.99**	**0.70**	**49.75**	**4.24**	**7.03**	**49.19**	**12.36**	**10.57**

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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/12/2021	5	20	
4	Building Construction	Building Construction	3/13/2021	12/17/2021	5	200	
5	Paving	Paving	9/1/2021	12/17/2021	5	78	
6	Architectural Coating	Architectural Coating	9/1/2021	12/17/2021	5	78	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.81

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,858; Non-Residential Outdoor: 9,953; Striped Parking Area: 7,347 (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
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
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
Architectural Coating	Air Compressors	1	6.00	78	0.48

<u>Trips and VMT</u>

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	102.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	96.00	38.00	0.00	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
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Clean Paved Roads

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					0.0111	0.0000	0.0111	1.6900e-003	0.0000	1.6900e-003	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**	**0.0111**	**0.0155**	**0.0266**	**1.6900e-003**	**0.0144**	**0.0161**	**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	2.5000e-004	0.0113	1.5600e-003	4.0000e-005	8.8000e-004	3.0000e-005	9.1000e-004	2.4000e-004	3.0000e-005	2.7000e-004	0.0000	3.6592	3.6592	2.2000e-004	0.0000	3.6648
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	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**8.9000e-004**	**0.0118**	**6.2800e-003**	**5.0000e-005**	**2.5300e-003**	**4.0000e-005**	**2.5700e-003**	**6.8000e-004**	**4.0000e-005**	**7.2000e-004**	**0.0000**	**4.9925**	**4.9925**	**2.5000e-004**	**0.0000**	**4.9989**

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					4.3400e-003	0.0000	4.3400e-003	6.6000e-004	0.0000	6.6000e-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**	**4.3400e-003**	**0.0155**	**0.0199**	**6.6000e-004**	**0.0144**	**0.0151**	**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	2.5000e-004	0.0113	1.5600e-003	4.0000e-005	8.2000e-004	3.0000e-005	8.5000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	3.6592	3.6592	2.2000e-004	0.0000	3.6648
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	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**8.9000e-004**	**0.0118**	**6.2800e-003**	**5.0000e-005**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**6.4000e-004**	**4.0000e-005**	**6.8000e-004**	**0.0000**	**4.9925**	**4.9925**	**2.5000e-004**	**0.0000**	**4.9989**

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					0.0903	0.0000	0.0903	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**	**0.0903**	**0.0102**	**0.1006**	**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	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	3.9000e-004	2.6000e-004	2.8300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8000	0.8000	2.0000e-005	0.0000	0.8004
Total	**3.9000e-004**	**2.6000e-004**	**2.8300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8000**	**0.8000**	**2.0000e-005**	**0.0000**	**0.8004**

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					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	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**	**0.0352**	**0.0102**	**0.0455**	**0.0194**	**9.4000e-003**	**0.0288**	**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	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	3.9000e-004	2.6000e-004	2.8300e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8000	0.8000	2.0000e-005	0.0000	0.8004
Total	**3.9000e-004**	**2.6000e-004**	**2.8300e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8000**	**0.8000**	**2.0000e-005**	**0.0000**	**0.8004**

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					0.0655	0.0000	0.0655	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**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**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	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	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**6.4000e-004**	**4.3000e-004**	**4.7200e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3333**	**1.3333**	**3.0000e-005**	**0.0000**	**1.3341**

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					0.0256	0.0000	0.0256	0.0131	0.0000	0.0131	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**	**0.0256**	**0.0116**	**0.0372**	**0.0131**	**0.0107**	**0.0238**	**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	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	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**6.4000e-004**	**4.3000e-004**	**4.7200e-003**	**1.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.3333**	**1.3333**	**3.0000e-005**	**0.0000**	**1.3341**

3.5 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	0.1901	1.7432	1.6575	2.6900e-003		0.0959	0.0959		0.0901	0.0901	0.0000	231.6373	231.6373	0.0559	0.0000	233.0344
Total	**0.1901**	**1.7432**	**1.6575**	**2.6900e-003**		**0.0959**	**0.0959**		**0.0901**	**0.0901**	**0.0000**	**231.6373**	**231.6373**	**0.0559**	**0.0000**	**233.0344**

3.5 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	9.0700e-003	0.3543	0.0682	9.7000e-004	0.0240	6.8000e-004	0.0247	6.9200e-003	6.5000e-004	7.5700e-003	0.0000	92.7098	92.7098	7.0700e-003	0.0000	92.8866
Worker	0.0412	0.0277	0.3022	9.4000e-004	0.1055	6.3000e-004	0.1062	0.0280	5.8000e-004	0.0286	0.0000	85.3293	85.3293	1.9900e-003	0.0000	85.3789
Total	**0.0502**	**0.3821**	**0.3704**	**1.9100e-003**	**0.1295**	**1.3100e-003**	**0.1308**	**0.0349**	**1.2300e-003**	**0.0362**	**0.0000**	**178.0391**	**178.0391**	**9.0600e-003**	**0.0000**	**178.2656**

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	0.1901	1.7432	1.6575	2.6900e-003		0.0959	0.0959		0.0901	0.0901	0.0000	231.6370	231.6370	0.0559	0.0000	233.0341
Total	**0.1901**	**1.7432**	**1.6575**	**2.6900e-003**		**0.0959**	**0.0959**		**0.0901**	**0.0901**	**0.0000**	**231.6370**	**231.6370**	**0.0559**	**0.0000**	**233.0341**

3.5 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	9.0700e-003	0.3543	0.0682	9.7000e-004	0.0225	6.8000e-004	0.0232	6.5500e-003	6.5000e-004	7.2000e-003	0.0000	92.7098	92.7098	7.0700e-003	0.0000	92.8866
Worker	0.0412	0.0277	0.3022	9.4000e-004	0.0973	6.3000e-004	0.0979	0.0260	5.8000e-004	0.0266	0.0000	85.3293	85.3293	1.9900e-003	0.0000	85.3789
Total	**0.0502**	**0.3821**	**0.3704**	**1.9100e-003**	**0.1198**	**1.3100e-003**	**0.1211**	**0.0326**	**1.2300e-003**	**0.0338**	**0.0000**	**178.0391**	**178.0391**	**9.0600e-003**	**0.0000**	**178.2656**

3.6 Paving - 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	0.0490	0.5038	0.5715	8.9000e-004		0.0264	0.0264		0.0243	0.0243	0.0000	78.0916	78.0916	0.0253	0.0000	78.7230
Paving	3.6800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0527**	**0.5038**	**0.5715**	**8.9000e-004**		**0.0264**	**0.0264**		**0.0243**	**0.0243**	**0.0000**	**78.0916**	**78.0916**	**0.0253**	**0.0000**	**78.7230**

3.6 Paving - 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	2.5100e-003	1.6900e-003	0.0184	6.0000e-005	6.4300e-003	4.0000e-005	6.4700e-003	1.7100e-003	4.0000e-005	1.7400e-003	0.0000	5.1998	5.1998	1.2000e-004	0.0000	5.2028
Total	**2.5100e-003**	**1.6900e-003**	**0.0184**	**6.0000e-005**	**6.4300e-003**	**4.0000e-005**	**6.4700e-003**	**1.7100e-003**	**4.0000e-005**	**1.7400e-003**	**0.0000**	**5.1998**	**5.1998**	**1.2000e-004**	**0.0000**	**5.2028**

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	0.0490	0.5038	0.5715	8.9000e-004		0.0264	0.0264		0.0243	0.0243	0.0000	78.0915	78.0915	0.0253	0.0000	78.7229
Paving	3.6800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0527**	**0.5038**	**0.5715**	**8.9000e-004**		**0.0264**	**0.0264**		**0.0243**	**0.0243**	**0.0000**	**78.0915**	**78.0915**	**0.0253**	**0.0000**	**78.7229**

3.6 Paving - 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	2.5100e-003	1.6900e-003	0.0184	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.1998	5.1998	1.2000e-004	0.0000	5.2028
Total	**2.5100e-003**	**1.6900e-003**	**0.0184**	**6.0000e-005**	**5.9300e-003**	**4.0000e-005**	**5.9700e-003**	**1.5800e-003**	**4.0000e-005**	**1.6200e-003**	**0.0000**	**5.1998**	**5.1998**	**1.2000e-004**	**0.0000**	**5.2028**

3.7 Architectural Coating - 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					
Archit. Coating	0.0546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5400e-003	0.0596	0.0709	1.2000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	9.9577	9.9577	6.8000e-004	0.0000	9.9748
Total	**0.0632**	**0.0596**	**0.0709**	**1.2000e-004**		**3.6700e-003**	**3.6700e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**9.9577**	**9.9577**	**6.8000e-004**	**0.0000**	**9.9748**

3.7 Architectural Coating - 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	3.1800e-003	2.1400e-003	0.0233	7.0000e-005	8.1400e-003	5.0000e-005	8.1900e-003	2.1600e-003	4.0000e-005	2.2100e-003	0.0000	6.5864	6.5864	1.5000e-004	0.0000	6.5902
Total	**3.1800e-003**	**2.1400e-003**	**0.0233**	**7.0000e-005**	**8.1400e-003**	**5.0000e-005**	**8.1900e-003**	**2.1600e-003**	**4.0000e-005**	**2.2100e-003**	**0.0000**	**6.5864**	**6.5864**	**1.5000e-004**	**0.0000**	**6.5902**

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	0.0546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5400e-003	0.0596	0.0709	1.2000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	9.9577	9.9577	6.8000e-004	0.0000	9.9748
Total	**0.0632**	**0.0596**	**0.0709**	**1.2000e-004**		**3.6700e-003**	**3.6700e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**9.9577**	**9.9577**	**6.8000e-004**	**0.0000**	**9.9748**

3.7 Architectural Coating - 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	3.1800e-003	2.1400e-003	0.0233	7.0000e-005	7.5100e-003	5.0000e-005	7.5600e-003	2.0100e-003	4.0000e-005	2.0500e-003	0.0000	6.5864	6.5864	1.5000e-004	0.0000	6.5902
Total	**3.1800e-003**	**2.1400e-003**	**0.0233**	**7.0000e-005**	**7.5100e-003**	**5.0000e-005**	**7.5600e-003**	**2.0100e-003**	**4.0000e-005**	**2.0500e-003**	**0.0000**	**6.5864**	**6.5864**	**1.5000e-004**	**0.0000**	**6.5902**

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
	tons/yr										MT/yr					
Mitigated	0.0613	0.2215	0.5565	1.8600e-003	0.1595	3.4400e-003	0.1629	0.0427	3.2600e-003	0.0460	0.0000	173.4880	173.4880	7.2200e-003	0.0000	173.6686
Unmitigated	0.0613	0.2215	0.5565	1.8600e-003	0.1595	3.4400e-003	0.1629	0.0427	3.2600e-003	0.0460	0.0000	173.4880	173.4880	7.2200e-003	0.0000	173.6686

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	138.03	138.03	138.03	418,286	418,286
Total	138.03	138.03	138.03	418,286	418,286

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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Place of Worship	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	113.5855	113.5855	2.4800e-003	5.1000e-004	113.8009
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	121.4851	121.4851	2.6600e-003	5.5000e-004	121.7154
NaturalGas Mitigated	2.9900e-003	0.0272	0.0229	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	29.6164	29.6164	5.7000e-004	5.4000e-004	29.7924
NaturalGas Unmitigated	3.4900e-003	0.0317	0.0266	1.9000e-004		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003	0.0000	34.5111	34.5111	6.6000e-004	6.3000e-004	34.7162

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					
City Park	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
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
Place of Worship	646713	3.4900e-003	0.0317	0.0266	1.9000e-004		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003	0.0000	34.5111	34.5111	6.6000e-004	6.3000e-004	34.7162
Total		**3.4900e-003**	**0.0317**	**0.0266**	**1.9000e-004**		**2.4100e-003**	**2.4100e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**34.5111**	**34.5111**	**6.6000e-004**	**6.3000e-004**	**34.7162**

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					
City Park	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
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
Place of Worship	554991	2.9900e-003	0.0272	0.0229	1.6000e-004		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	29.6164	29.6164	5.7000e-004	5.4000e-004	29.7924
Total		**2.9900e-003**	**0.0272**	**0.0229**	**1.6000e-004**		**2.0700e-003**	**2.0700e-003**		**2.0700e-003**	**2.0700e-003**	**0.0000**	**29.6164**	**29.6164**	**5.7000e-004**	**5.4000e-004**	**29.7924**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	202036	121.4851	2.6600e-003	5.5000e-004	121.7154
Total		**121.4851**	**2.6600e-003**	**5.5000e-004**	**121.7154**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	188898	113.5855	2.4800e-003	5.1000e-004	113.8009
Total		**113.5855**	**2.4800e-003**	**5.1000e-004**	**113.8009**

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	0.0863	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5800e-003	3.5800e-003	1.0000e-005	0.0000	3.8200e-003
Unmitigated	0.0863	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5800e-003	3.5800e-003	1.0000e-005	0.0000	3.8200e-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	5.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0807					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5800e-003	3.5800e-003	1.0000e-005	0.0000	3.8200e-003
Total	**0.0863**	**2.0000e-005**	**1.8500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5800e-003**	**3.5800e-003**	**1.0000e-005**	**0.0000**	**3.8200e-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	5.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0807					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5800e-003	3.5800e-003	1.0000e-005	0.0000	3.8200e-003
Total	**0.0863**	**2.0000e-005**	**1.8500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5800e-003**	**3.5800e-003**	**1.0000e-005**	**0.0000**	**3.8200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.1207	0.0168	5.0000e-004	25.6883
Unmitigated	27.5039	0.0209	6.0000e-004	28.2059

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.38296	15.9194	3.5000e-004	7.0000e-005	15.9496
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.622962 / 0.974377	11.5845	0.0206	5.3000e-004	12.2564
Total		**27.5039**	**0.0209**	**6.0000e-004**	**28.2059**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.2376	14.9483	3.3000e-004	7.0000e-005	14.9766
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.49837 / 0.91494	10.1724	0.0165	4.3000e-004	10.7116
Total		**25.1207**	**0.0168**	**5.0000e-004**	**25.6883**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.5360	0.6818	0.0000	28.5799
Unmitigated	23.0720	1.3635	0.0000	57.1598

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.17	0.0345	2.0400e-003	0.0000	0.0855
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	113.49	23.0374	1.3615	0.0000	57.0743
Total		**23.0720**	**1.3635**	**0.0000**	**57.1598**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.085	0.0173	1.0200e-003	0.0000	0.0428
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	56.745	11.5187	0.6807	0.0000	28.5372
Total		**11.5360**	**0.6818**	**0.0000**	**28.5799**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Biological Resources

47 1st Street, Suite 1
Redlands, CA 92373-4601
(909) 307-5633

October 1, 2020
Revised February 2, 2020

Ruben Salas
Kimley-Horn
3880 Lemon Street, Suite 420
Riverside, CA 92501

RE: Biological Resource Assessment, Jurisdictional Delineation,
Burrowing Owl Habitat Assessment, Riverine/Riparian and Vernal Pool Assessment
Orangecrest Church Project
5695 Glenhaven Avenue
City of Riverside, Riverside County, CA

Dear Mr. Salas

Jericho Systems, Inc. (Jericho) is pleased to provide this Biological Resource Assessment and Jurisdictional Delineation (BRA/JD), burrowing owl (*Athene cunicularia*) [BUOW] habitat assessment, and riverine riparian and vernal pool areas assessment report prepared for Assessor Parcel Number (APN) 2222-50-006 (subject parcel) located in the City of Riverside.

PROJECT LOCATION

The proposed Project site consists of 5.27 acres at 5695 Glenhaven Avenue, Riverside, CA and identified as Assessor's Parcel Number (APN) 2222-50-006. It is bounded by Alessandro Boulevard on the south, residential development on the north, Glenhaven Avenue on the east, and an undeveloped hill on the west. The proposed Project is within the *Riverside East* U.S. Geological Survey (USGS) 7.5-minute topographical map in Section 36, Township 2 South, Range 5 West (Figure 1, Figure 2, Figure 3).

The City of Riverside is a signatory to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP requires that a project comply with the MSHCP policies identified in Section 6 of the MSHCP. The Project site is located in the River Habitat Management Unit in an area that requires focused BUOW surveys be conducted if suitable habitat is present. The site is not located in within any MSHCP designated criteria cell, cell group, or area identified for conservation. Further, the Project site is not located in an amphibian, criteria area species, mammal, or narrow endemic plant survey area.

INTRODUCTION

As per Section 6.3.2 of the MSHCP a habitat suitability assessment for BUOW was conducted. The initial site assessment determined that potentially suitable habitat for BUOW occurred onsite and as a result follow-on focused surveys for BUOW were conducted.

The results of Jericho's field surveys are intended to provide sufficient baseline information to the County and, if required, to federal and State regulatory agencies, including U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), respectively, to determine if impacts will occur, quantify those impacts and to identify mitigation measures to offset any impacts.

METHODS

Prior to the field investigation reference materials and databases relevant to the Project site were reviewed for the *Riverside East* and *Riverside West* 7.5-minute USGS quadrangles. The database search included the *Riverside West* USGS Quad due to the Project site's proximity (less than 3 miles). The sources reviewed included:

- California Natural Diversity Database (CNDDB) *Rarefind 5*;
- CNDDB Biogeographic Information and Observation System (BIOS);
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey;
- County/City habitat conservation plans and other sensitive resource policies;
- RCA MSHCP Information Map
- Burrowing Owl Burrow Reconnaissance Survey prepared by FirstCarbon Solutions in 2015

The initial field survey was conducted on August 24, 2020, by Jericho biologist Christian Nordal. Mr. Nordal is a biologist with an M.S. in biology and several years of experience surveying for BUOW in Southern California. Mr. Nordal conducted the BUOW habitat suitability assessment conducted in accordance with the Western Riverside County MSHCP, which follows the 1993 *"Burrowing Owl Survey Protocol and Mitigation Guidelines"* prepared by the California Burrowing Owl Consortium. Suitable habitat was determined present, and this protocol requires four (4) surveys between March 1 - August 31.

The surveys were conducted on calm weather days, during peak BUOW activity in the early morning (one hour before sunrise to two hours after) and late afternoon (two hours before sunset to one hour after).

Table 1. Weather Data During Survey

Date	Time of Survey	% Cloud Cover	Wind (BFT)	Temperature (° F)	Precipitation
08/24/2020	8:00 a.m.	0	0	74	None
08/26/2020	6:00 p.m.	0	0	100	None
08/27/2020	8:00 a.m.	0	1	70	None
08/29/2020	6:00 p.m.	0	1	85	None

To allow for 100 percent visual coverage of the ground surface, Mr. Nordal systematically searched the entire Project site by walking transects spaced at approximately 30 meters (approximately 100 ft.), which was adjusted as necessary to account for differences in terrain, vegetation density, and ground surface visibility. Buffer areas on the south, north, and east are developed and there is no suitable habitat – the south consists of Alessandro Boulevard and residential development; west consists of tennis courts, institutional development and Glenhaven Avenue, and the north consists of high-density residential development. Along the west, the buffer area is not developed and is not part of the Project. Therefore, the surrounding 500-foot buffer area was surveyed with binoculars.

Natural and non-natural substrates were examined to identify surrogate burrows. All potential BUOW burrows encountered were examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Disturbance characteristics and all other animal sign encountered within the survey area were recorded. Date time and weather conditions were logged. A hand-held, global positioning system (GPS) unit was used to survey straight transects, to identify survey area boundaries, and for other pertinent information. Representative photographs of the survey area were taken, and Google Earth Pro was accessed to provide recent aerial photographs of the project site and surrounding area.

Riverside County also requires that any survey limitations be identified. No private property was surveyed without owner permission and buffer areas were surveyed with binoculars to avoid unwanted trespassing. Surveys were conducted during the appropriate season to observe the target species, in good weather conditions, by qualified biologists who followed all pertinent protocols.

RESULTS

According to the database searches, 60 sensitive species and four sensitive habitats have been documented in the *Riverside East* and *Riverside West* USGS 7.5-minute series quadrangles (Attachment A, Figure 5). This list of sensitive species and habitats includes any State and/or federally listed threatened or endangered species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. “Special Animals” is a general term that refers to all taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species.” The CDFW considers the taxa on this list to be those of greatest conservation need. An analysis of the likelihood of occurrence for all sensitive species documented in the *Riverside East* and *Riverside West* quads on the Project site is provided in Attachment A. This analysis takes into account species range as well as documentation within the vicinity of the Project site and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. According to the databases, no sensitive habitat, including USFWS designated critical habitat, occurs within or adjacent to the Project site.

Species with a Moderate Potential To Occur

- Attachment A summarizes the database search and provides an analysis of the potential for these species to occur. Species identified in this section are identified to have a “moderate” potential to occur.

- Plummer’s mariposa Lily – this species typically is found in 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. The habitat on site is ruderal annual grassland with some remnant coastal scrub species. This species could be present within the northern portion of the site where remnant, patchy coastal sage scrub plants were found. However, this species is not ranked as a high or moderate risk for extinction. The Riverside MSHCP also did not identify that this parcel required surveys for narrow endemic plant species. Therefore, the project would have a less than significant impact to this species.

- Smooth tarplant – this species is typically found in valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland, or alkali meadow, alkali scrub; also in disturbed places. The habitat on site is ruderal annual grassland with some remnant coastal scrub species. This species could be present within the northern portion of the site where remnant, patchy coastal sage scrub plants were found. However, this species is not ranked as a high or moderate risk for extinction. The Riverside MSHCP also did not identify that this parcel required surveys for narrow endemic plant species. Additionally, this species would have been blooming during the field surveys and would have been discovered during the site visits. Therefore, the project would have a less than significant impact to this species.

- Parry's spineflower – Typically found in coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Habitat on site is ruderal annual grassland with some remnant coastal scrub species. This species could be present within the northern portion of the site where remnant, patchy coastal sage scrub plants were found. However, this species is not ranked as a high or moderate risk for extinction. The Riverside MSHCP also did not identify that this parcel required surveys for narrow endemic plant species. Therefore, the project would have a less than significant impact to this species.

- paniculate tarplant – This species can be found in coastal scrub, valley and foothill grassland, vernal pools, but usually in vernally mesic sites, and sometimes in vernal pools or on mima mounds near them. The habitat on site is ruderal annual grassland with some remnant coastal scrub species, and there are no vernal pools or vernally mesic sites. This species could be present within the northern portion of the site where remnant, patchy coastal sage scrub plants were found. However, this species is not ranked as a high or moderate risk for extinction. The Riverside MSHCP also did not identify that this parcel required surveys for narrow endemic plant species. Therefore, the project would have a less than significant impact to this species.

- Cooper's hawk – This species prefers woodland, chiefly of open, interrupted or marginal type. Nest sites are mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks. There are trees on site and in the general vicinity that can provide suitable habitat for this species. No nests were observed in the trees on site. Even though the Project may impact the trees on site, the Cooper’s hawk will utilize a variety of trees for nesting and roosting, and there are numerous trees in the general Project area. A pre-construction nesting bird survey is recommended. With the nesting survey, there is a less than significant impact.

- southern California rufous-crowned sparrow – A resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches. Steep, rocky cliffside preferred by this species is on site, and some coastal scrub species occur on and near the cliff. The Project is not anticipated to impact the cliff or hillside that exists on the western portion of the site. Therefore, there is a less than significant impact.

- Stephens' kangaroo rat - Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil. Habitat on site is marginally suitable for this species, mostly in the northern area where there is patchy coastal sage scrub species and grassland. However, this area is small, isolated, and does not provide connectivity to other areas that would be suitable for this species. The Riverside MSHCP has a Stephen’s kangaroo rat fee structure to off-set development.

- western mastiff bat – Prefers open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels. The cliff face in the western area of the site provides suitable roosting habitat for this species. The Project is not anticipated to disturb the cliff, therefore, there is a less than significant impact.

- western yellow bat – this species is typically found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Palm trees suitable for roosting are on site and water sources are available within a one mile radius. Roosts in trees, particularly palms. Forages over water and among trees. A pre-construction nesting bird survey is recommended. With the implementation of this recommendation, there would be a less than significant impact.

- pocketed free-tailed bat – This species prefers a variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc., especially rocky areas with high cliffs. The cliff face in the western portion of the site provides suitable roosting habitat for this species. However the Project is not anticipated to impact the cliff area, therefore, there is a less than significant impact.

- Southern California legless lizard – Typically occurs in sandy or loose loamy soils under sparse vegetation, and typically prefer soils with a high moisture content. Suitable habitat for this species occurs at the base of the cliff where less drought-tolerant species occur. The Project is not anticipated to significantly impact the suitable habitat area where this species could occur. Therefore, there is a less than significant impact.

- California glossy snake – Generally reported from a range of scrub and grassland habitats, often with loose or sandy soils. Suitable habitat for this species occurs at the base of the cliff where less drought-tolerant species occur. The Project is not anticipated to significantly impact the suitable habitat area where this species could occur. Therefore, there is a less than significant impact.

- red-diamond rattlesnake - Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects. Habitat on site is primarily ruderal annual grassland. The snake may be preyed on by kingsnakes, roadrunners and possibly owls, according to the California's Department of Fish and Wildlife, and it has lost habitat as human developments expand into its range. Nevertheless, it is ranked as a species of "least concern" by the International Union for Conservation of Nature and Natural Resources. However, the species' population trend is down, and it may face long-term threats. In fact, said the San Diego Natural History Museum, it is listed as a "Special Concern species" by both the Federal and California state governments. Due to the urban nature of the area with prey species, as well as the Project site not providing any wildlife corridor funtion, it is not likely that this species will be present within the Project area. A recommendation for worker awareness training will reduce potential impacts.

Burrowing owl: Although not a State- or federally-listed as threatened or endangered species, burrowing owl (*Athene cunicularia*) are considered a State and federal Species of Special Concern (SSC) and are a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by

State law under the California Fish and Game Code (CDFG Code #3513 & #3503.5). Burrowing owl have been documented locally in suitable habitat areas.

Regional Setting

According to the EPA Regional map, the Project site is located in the Inland Valleys (85k) ecoregion. An ecoregion is a regional area that has similar ecosystems in terms of type, quality, and quantity of environmental resources. The Inland Valleys ecoregion is influenced less by marine processes, and more by alluvial processes. The ecoregion consists of alluvial fans and basin floors at the base of the San Bernardino and San Gabriel mountains and the San Jacinto and Perris Valleys in the south. The region was historically composed of Riversidean coastal sage scrub, valley grasslands, and riparian woodlands. The ecoregion is now heavily urbanized with some remaining agriculture.

Hydrologically, the Project site is located within the Middle Santa Ana River hydrologic area, in the 50,190-acre Riverside hydrologic sub-area (HSA 801.27) within the Middle Santa Ana River watershed (HUC 180702030802).

The City of Riverside is located in central western Riverside County. Riverside is bordered by the La Sierra Hills, Mount Rubidoux, and Box Springs Mountains on the north and the southern hills and Sycamore Canyon on the south. The general climate of Riverside is described as warm, dry summers and mild winters and is characterized as warm-summer Mediterranean with average maximum temperatures ranging from a 94° Fahrenheit (F) in the summer to 67° F and an average annual rainfall of 11 inches.

Existing Site Conditions

Soils on site consist of Buren fine sandy loam (8 to 15 percent slopes, eroded) and Fallbrook rocky sandy loam (shallow, 15 to 50 percent slopes, eroded). Refer to Figure 4 for a depiction of the soils on site.

The topography of the Project site is flat where existing development is on site. Existing development consists of tennis courts, asphalt, and the existing infrastructure. The western portion of the site is undeveloped with a cliff with steep ledges and a canyon bottom with rolling soils. Elevations on site range from 1070 feet above mean sea level (AMSL) at the canyon bottom to 1120 feet AMSL at the cliff top. The Project site is within a developed area, bordered by low density residential on the northwest and by high density residential on all other sides. Historical images back to May of 1994 show the current development had already been built on the parcel with consistent clearing/grubbing occurring on all other parts of the parcel. This has resulted in the undeveloped portion of the site being overgrown by ruderal, annual vegetation with remnant coastal scrub species.

Plant species identified on site include Peruvian pepper tree (*Schinus mole*), Mexican fan palm (*Washingtonia robusta*), Russian thistle (*Salsola tragus*), oleander (*Nerium oleander*), wild oat (*Avena fatua*), yellow tobacco tree (*Nicotiana glauca*), brittlebush (*Encelia farinosa*), and California buckwheat (*Erioganum fasciculatum*).

Wildlife species observed on site include house finch (*Carpodacus mexicanus*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), and lesser goldfinch (*Spinus psaltria*). California ground squirrel (*Otospermophilus beecheyi*) burrows were found at the southern base of the cliff on site.

Burrowing owl

The western Burrowing Owl (BUOW, *Athene cunicularia hypugaea*) is one of 18 New World Burrowing Owl subspecies, and one of only two in North America. BUOW, ranges from Texas to California and north to southern Canada. Individuals of resident populations in southern California, northern Mexico, and Florida breed and overwinter in an area without a significant migration (Haug et al. 1993). BUOW, a California Species of Special Concern (SSC), are found across American open landscapes, showing activity chiefly in the daytime. In California, preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography and well-drained soils. In addition, BUOW may occur in some agricultural areas, ruderal grassy fields, vacant lots and pastures, and flood control facilities if the surrounding vegetation structure is suitable and there are useable burrows and foraging habitat in proximity. Unique among North American raptors, the BUOW requires underground burrows or other cavities for nesting during the breeding season and for roosting and cover, year-round. Burrows used by the owls are usually dug by other species termed host burrowers. In California, California ground squirrel (*Spermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) burrows are frequently used by BUOW but they may use dens or holes dug by other fossorial species and/or human made structures such as cement culverts and pipes.

BUOW have a high fidelity to their birth territory and they often prefer nesting in areas of high burrow densities. Breeding pairs are easily located within the surrounding of their nests (usually 90 feet) due to their territorial behavior. They are active during the day and night and are generally observed in the early morning hours or at twilight.

BUOW breeding season begins February 1 and extends to August 31. Pair formation can begin in February. Peak of the BUOW breeding season, commonly accepted in California, occurs between April 15 and July 15. April to mid-May is when most burrowing owls are in the egg laying and incubation stages. BUOW egg incubation period is about 27-28 days Chick rearing typically occurs between May 15 and July 1. July 15 is typically considered the late nestling period when most owls are spending time above ground. The non-breeding season (September 1 to January 31)

BUOW are semi-colonial and will sometimes share a burrow for incubation and chick rearing.

Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, “Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey.”

Per the literature review, the nearest documented BUOW occurrence is an extirpated occurrence approximately 2.76 miles southwest of the survey area (CNDDB, 2005). The previous habitat assessment (FirstCarbon Solutions, 2015) found habitat on site to be suitable, and identified in the report that one BUOW was observed perched on a telephone line. Because no information on the BUOW was provided (such as where it flew to, how long it was observed, what it was doing on site, etc.) or submitted to the CNDDB, this occurrence was not used as the nearest recorded occurrence.

The only suitable habitat within the Project area occurs within the undeveloped portion of the parcel (Figure 6). There are ground squirrel burrows along the cliff in this portion that are potentially suitable for BUOW.

The results of the protocol surveys were that no burrowing owls or recent or historic sign (molted feathers, whitewash, cast pellets or prey remains, or whitewash) were observed during the surveys.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are identified:

There are no federally or State-listed species or critical habitat within the Project area. However, some species of special concern may have a moderate potential to occur on site.

General Species Avoidance and Minimization

> Recommendation: A qualified biologist shall develop a Worker Environmental Awareness Program (WEAP) that will include information on general and special status species within the project area, identification of these species and their habitats, techniques being implemented during construction to avoid impacts to species, consequences of killing or injuring an individual of a listed species, and reporting procedures when encountering listed or sensitive species. Construction crews, foremen, and other personnel potentially working on site will attend this education program and place their name on a sign-in sheet. This briefing shall include provisions of any requirements required for the project. The Worker Environmental Awareness Program training shall be implemented on the first day of work and periodically throughout construction as needed.

Burrowing Owl

Habitat on site is suitable for BUOW in the undeveloped portion of the parcel. Based on site conditions, the likelihood of burrowing owl is moderate but the species is currently absent. However, to ensure that there are no impacts to burrowing owl, the following is recommended:

> Recommendation: All project sites containing suitable habitat for burrowing owls, whether owls were found or not, require a 30-day preconstruction survey that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls. If burrowing owls are found to be present or nesting on-site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the City and appropriate regulatory agencies (if any) that egg laying or chick rearing is not taking place. This determination must be made by a qualified biologist.

Nesting Birds

The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711) provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered a take under federal law. The USFWS, in coordination with the CDFW administers the MBTA. CDFW's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

Vegetation suitable for nesting birds does exist within and adjacent to the Project site and most birds are protected by the MBTA.

> Recommendation: Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. In general, Projects should be constructed outside of this time to avoid impacts to nesting birds. If a Project cannot be constructed outside of nesting season, the project site shall be surveyed for nesting birds by a qualified avian biologist prior to initiating the construction activities. If active nests are found during the pre-construction nesting bird surveys, a Nesting Bird Plan (NBP) will be prepared and implemented. At a minimum, the NBP will include guidelines for addressing active nests, establishing buffers, monitoring, and reporting. The NBP will include a copy of maps showing the location of all nests and an appropriate buffer zone around each nest sufficient to protect the nest from direct and indirect impact. The size and location of all buffer zones, if required, shall be determined by the biologist, and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved buffer zone shall be marked in the field, within which no vegetation clearing or ground disturbance shall commence until the qualified biologist has determined the young birds have successfully fledged or that the nest has otherwise become inactive.

Thank you for this opportunity to provide information on this important Project. Please contact me if you have questions or need further information:

Sincerely,

Shay Lawrey

Shay Lawrey
President

Attachments:

Attachment A - Sensitive Species Potential To Occur
Attachment B – Site Photos
Figure 1 – Site Vicinity
Figure 2 – Project Location-Topo Base
Figure 3 – Project Location-Aerial Base
Figure 4 – Soils
Figure 5 – 1-Mile CNDDB Occurrences
Figure 6 – BUOW Suitable Habitat

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
Plants				
Abronia villosa var. *aurita*	chaparral sand-verbena	None None G5T2? S2 1B.1 BLM: Sensitive USFS: Sensitive	Chaparral, coastal scrub, desert dunes. Sandy areas. -60-1570 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Ambrosia pumila	San Diego ambrosia	Endangered None G1 S1 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. 3-580 m.	The soils required for this species are not on site. Potential to occur is **low.**
Arenaria paludicola	marsh sandwort	Endangered Endangered G1 S1 1B.1	Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Berberis nevinii	Nevin's barberry	Endangered Endangered G1 S1 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Calochortus plummerae	Plummer's mariposa-lily	None None G4 S4 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. 60-2500 m.	Habitat on site is ruderal annual grassland with some remnant coastal scrub species. Potential to occur is **moderate**.
Centromadia pungens ssp. *laevis*	smooth tarplant	None None G3G4T2 S2 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	Habitat on site is ruderal annual grassland with some remnant coastal scrub species. Potential to occur is **moderate**.
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	Endangered Endangered G4?T1 S1 1B.2 BLM: Sensitive	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Chorizanthe parryi var. *parryi*	Parry's spineflower	None None G3T2	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland.	Habitat on site is ruderal annual grassland with some remnant coastal

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
		S2 1B.1 BLM: Sensitive USFS: Sensitive	Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	scrub species. Potential to occur is **moderate**.
Cylindropuntia californica var. *californica*	snake cholla	None None G3T2 S1 1B.1 BLM: Sensitive	Chaparral, coastal scrub. 15-290 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Deinandra paniculata	paniculate tarplant	None None G4 S4 4.2	Coastal scrub, valley and foothill grassland, vernal pools. Usually in vernally mesic sites. Sometimes in vernal pools or on mima mounds near them. 25-940 m.	Habitat on site is ruderal annual grassland with some remnant coastal scrub species. Potential to occur is **moderate**.
Eriastrum densifolium ssp. *sanctorum*	Santa Ana River woollystar	Endangered Endangered G4T1 S1 1B.1	Coastal scrub, chaparral. In sandy soils on river floodplains or terraced fluvial deposits. 180-705 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None None G4T2 S2 1B.1 BLM: Sensitive	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None None G5T3 S3 4.3	Chaparral, coastal scrub. Dry soils, shrubland. 4-1435 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Myosurus minimus ssp. *apus*	little mousetail	None None G5T2Q S2 3.1	Vernal pools, valley and foothill grassland. Alkaline soils. 20-640 m.	Vernal pools are not on site. Potential to occur is **low**.
Phacelia stellaris	Brand's star phacelia	None None G1 S1 1B.1	Coastal scrub, coastal dunes. Open areas. 3-370 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Romneya coulteri	Coulter's matilija poppy	None None G4 S4	Coastal scrub, chaparral. In washes and on slopes; also after burns. 20-1200 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
		4.2		
Senecio aphanactis	chaparral ragwort	None None G3 S2 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-1020 m.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Birds				
Accipiter cooperii	Cooper's hawk	None None G5 S4 CDFW: Watch List IUCN: Least Concern	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	There are ornamental trees in the vicinity that can provide suitable habitat for this species. Potential to occur is **moderate**.
Agelaius tricolor	tricolored blackbird	None Threatened G2G3 S1S2 BLM: Sensitive CDFW: Species of Special Concern IUCN: Endangered NABCI: Red Watch List USFWS: Birds of Conservation Concern	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.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None None G5T3 S3 CDFW: Watch List	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Steep, rocky cliffside preferred by this species is on site, and some coastal scrub species occur on and near the cliff. Potential to occur is **moderate**.
Artemisiospiza belli belli	Bell's sage sparrow	None None G5T2T3 S3 CDFW: Watch List USFWS: Birds of Conservation Concern	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Athene cunicularia	burrowing owl	None None G4 S3 BLM: Sensitive CDFW: Species of Special Concern IUCN: Least Concern	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.	Some suitable habitat for this species occurs at the southern base of the cliff. Potential to occur is **moderate**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
		USFWS: Birds of Conservation Concern		
Buteo swainsoni	Swainson's hawk	None Threatened G5 S3 BLM: Sensitive IUCN: Least Concern USFWS: Birds of Conservation Concern	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.	The project is outside of the species' current known range. Potential to occur is **low**.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened Endangered G5T2T3 S1 BLM: Sensitive NABCI: Red Watch List USFS: Sensitive USFWS: Birds of Conservation Concern	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.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Coturnicops noveboracensis	yellow rail	None None G4 S1S2 CDFW: Species of Special Concern IUCN: Least Concern NABCI: Red Watch List USFS: Sensitive USFWS: Birds of Conservation Concern	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Eremophila alpestris actia	California horned lark	None None G5T4Q S4 CDFW: Watch List IUCN: Least Concern	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Icteria virens	yellow-breasted chat	None None G5 S3 CDFW: Species of Special Concern IUCN: Least Concern	Summer resident; 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 ft of ground.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
Lanius ludovicianus	loggerhead shrike	None None G4 S4 CDFW: Species of Special Concern IUCN: Least Concern USFWS: Birds of Conservation Concern	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Habitat on site is non-expansive/open ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Laterallus jamaicensis coturniculus	California black rail	None Threatened G3G4T1 S1 BLM: Sensitive CDFW: Fully Protected IUCN: Near Threatened NABCI: Red Watch List USFWS: Birds of Conservation Concern	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.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Polioptila californica californica	coastal California gnatcatcher	Threatened None G4G5T2Q S2 CDFW: Species of Special Concern NABCI: Yellow Watch List	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Habitat on site is primarily ruderal annual grassland and coastal scrub on site does not contain *Artemesia californica*, the plant preferred by this species for nesting. The scrub is not suitable for this species. Potential to occur is **low**.
Setophaga petechia	yellow warbler	None None G5 S3S4 CDFW: Species of Special Concern USFWS: Birds of Conservation Concern	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Spinus lawrencei	Lawrence's goldfinch	None None G3G4 S3S4 IUCN: Least Concern NABCI: Yellow Watch List USFWS: Birds of Conservation Concern	Nests in open oak or other arid woodland and chaparral, near water. Nearby herbaceous habitats used for feeding. Closely associated with oaks.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
Vireo bellii pusillus	least Bell's vireo	Endangered Endangered G5T2 S2 IUCN: Near Threatened NABCI: Yellow Watch List	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Mammals				
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None None G5T3T4 S3S4 CDFW: Species of Special Concern	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Dipodomys merriami parvus	San Bernardino kangaroo rat	Endangered Candidate Endangered G5T1 S1 CDFW: Species of Special Concern	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Dipodomys stephensi	Stephens' kangaroo rat	Endangered Threatened G2 S2 IUCN: Endangered	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Habitat on site is marginally suitable for this species. Potential to occur is **moderate**.
Eumops perotis californicus	western mastiff bat	None None G5T4 S3S4 BLM: Sensitive CDFW: Species of Special Concern WBWG: High Priority	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	The cliff face provides suitable roosting habitat for this species. Potential to occur is **moderate**.
Lasiurus xanthinus	western yellow bat	None None G5 S3 CDFW: Species of Special Concern IUCN: Least Concern WBWG: High Priority	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Palm trees suitable for roosting are on site and water sources are available within a mile radius. Potential to occur is **moderate**.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None None G5T3T4	Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
		S3S4 CDFW: Species of Special Concern	Coastal sage scrub habitats in Southern California.	
Nyctinomops femorosaccus	pocketed free-tailed bat	None None G4 S3 CDFW: Species of Special Concern IUCN: Least Concern WBWG: Medium Priority	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	The cliff face provides suitable roosting habitat for this species. Potential to occur is **moderate**
Onychomys torridus ramona	southern grasshopper mouse	None None G5T3 S3 CDFW: Species of Special Concern	Chenopod scrub Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None None G5T1T2 S1S2 CDFW: Species of Special Concern	Coastal scrub Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Taxidea taxus	American badger	None None G5 S3 CDFW: Species of Special Concern IUCN: Least Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Reptiles				
Anniella stebbinsi	Southern California legless lizard	None None G3 S3 CDFW: Species of Special Concern USFS: Sensitive	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.	Suitable habitat for this species occurs at the base of the cliff where less drought-tolerant species occur. Potential to occur is **moderate**.
Arizona elegans occidentalis	California glossy snake	None None G5T2 S2	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.	Suitable habitat for this species occurs at the base of the cliff where less drought-tolerant species occur. Potential to occur is **moderate**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
		CDFW: Species of Special Concern	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	
Aspidoscelis hyperythra	orange-throated whiptail	None None G5 S2S3 CDFW: Watch List IUCN: Least Concern USFS: Sensitive	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Washes are not on site. Potential to occur is **low**.
Aspidoscelis tigris stejnegeri	coastal whiptail	None None G5T5 S3 CDFW: Species of Special Concern	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.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Crotalus ruber	red-diamond rattlesnake	None None G4 S3 CDFW: Species of Special Concern USFS: Sensitive	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Habitat on site is primarily ruderal annual grassland. Potential to occur is **moderate**.
Phrynosoma blainvillii	coast horned lizard	None None G3G4 S3S4 BLM: Sensitive CDFW: Species of Special Concern IUCN: Least Concern	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Habitat on site is primarily ruderal annual grassland and is not suitable for this species. Potential to occur is **low**.
Amphibians				
Spea hammondii	western spadefoot	None None G3 S3 BLM: Sensitive CDFW: Species of Special Concern IUCN: Near Threatened	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Habitat on site is primarily ruderal annual grassland with no pooling areas and is not suitable for this species. Potential to occur is **low**.
Fish				
Catostomus santaanae	Santa Ana sucker	Threatened None G1 S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Habitat on site is not aquatic. Potential to occur is **none.**

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
		AFS: Threatened IUCN: Vulnerable		
Gila orcuttii	arroyo chub	None None G2 S2 AFS: Vulnerable CDFW: Species of Special Concern USFS: Sensitive	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Habitat on site is not aquatic. Potential to occur is **none.**
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Endangered None G5T1Q S1 AFS: Endangered	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Habitat on site is not aquatic. Potential to occur is **none.**
Rhinichthys osculus ssp. *3*	Santa Ana speckled dace	None None G5T1 S1 AFS: Threatened CDFW: Species of Special Concern USFS: Sensitive	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Habitat on site is not aquatic. Potential to occur is **none.**
Crustaceans				
Streptocephalus woottoni	Riverside fairy shrimp	Endangered None G1G2 S1S2 IUCN: Endangered	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	There are no vernal pools on site. Potential to occur is **low**.
Insects				
Bombus crotchii	Crotch bumble bee	None Candidate Endangered G3G4 S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.*	Habitat on site is primarily disturbed and buckwheat is sparse. Potential to occur is **low**.
Carolella busckana	Busck's gallmoth	None None G1G3 SH	Coastal dunes, Coastal scrub	Coastal dunes habitat does not occur on site. Potential to occur is **low**.
Ceratochrysis longimala	Desert cuckoo wasp	None None G1 S1	Desert habitats.	Desert habitat is not on site. Potential to occur is **low**.

Attachment A - Sensitive Species Potential To Occur

Scientific Name	Common Name	Federal Listing State Listing Other Listing	Habitats	Potential To Occur
Euphydryas editha quino	quino checkerspot butterfly	Endangered None G5T1T2 S1S2	Sunny openings within chaparral & coastal sage shrublands in parts of Riverside & San Diego counties. Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	*Plantago* species required by this species do not occur on site. Potential to occur is **low**.
Neolarra alba	white cuckoo bee	None None GH SH	Known only from localities in Southern California. Cleptoparasitic in the nests of perdita bees.	The host bees for this species occur primarily in desert areas. Potential to occur is **low**.
Habitats				
Southern California Arroyo Chub/Santa Ana Sucker Stream	Southern California Arroyo Chub/Santa Ana Sucker Stream	None None GNR SNR		Habitat is not on site.
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None None G3 S3.2		Habitat is not on site.
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None None G4 S4		Habitat is not on site.
Southern Willow Scrub	Southern Willow Scrub	None None G3 S2.1		Habitat is not on site.

Attachment A - Sensitive Species Potential To Occur

Coding and Terms

E = Endangered   T = Threatened   C = Candidate   FP = Fully Protected   SSC = Species of Special Concern   R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank**)** attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa.* The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
1B = Plants rare, threatened, or endangered in California and elsewhere.
2A = Plants presumed extirpated in California, but common elsewhere.
2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
3 = Plants about which more information is needed; a review list.
4 = Plants of limited distribution; a watch list.

Threat Ranks:

.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Attachment B – Site Photos

Photo 1. Ground squirrel burrow along the cliff face.

Photo 2. West-facing shot of the cliff face on site in the undeveloped portion of the parcel

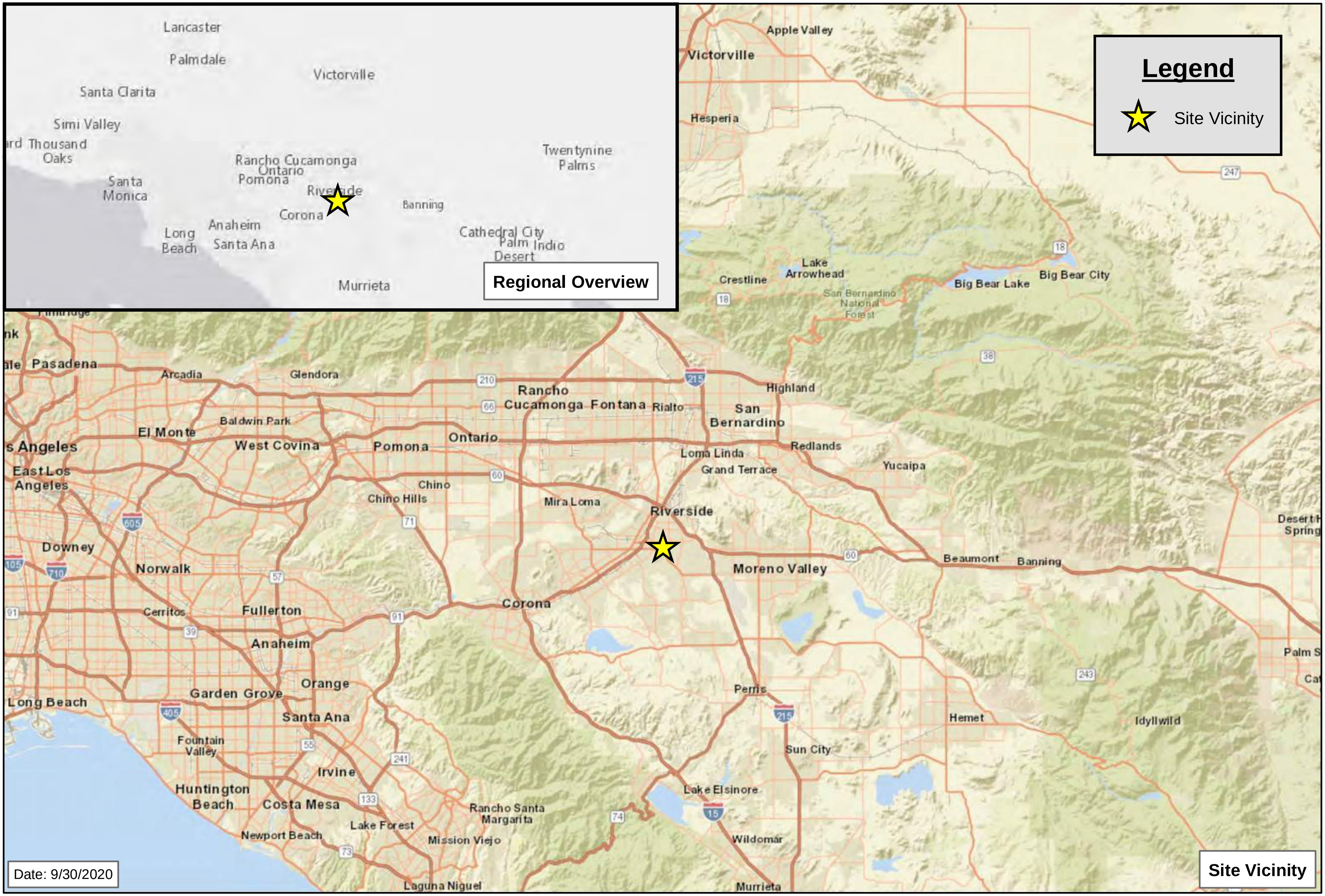
Attachment B – Site Photos

	**Photo 3**. Facing east toward the tennis courts on the existing development.
	**Photo 4**. Coastal scrub species in the north portion of the undeveloped area.

Attachment B – Site Photos

	**Photo 5.** Typical site conditions.
	**Photo 6.** Existing development on the eastern portion of the site.

	**Photo 7.** Tennis courts on site in existing development.



0 5 10 20 30 40 Miles

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1 - Regional Overview Site Vicinity	Orangecrest Church Kimley-Horn

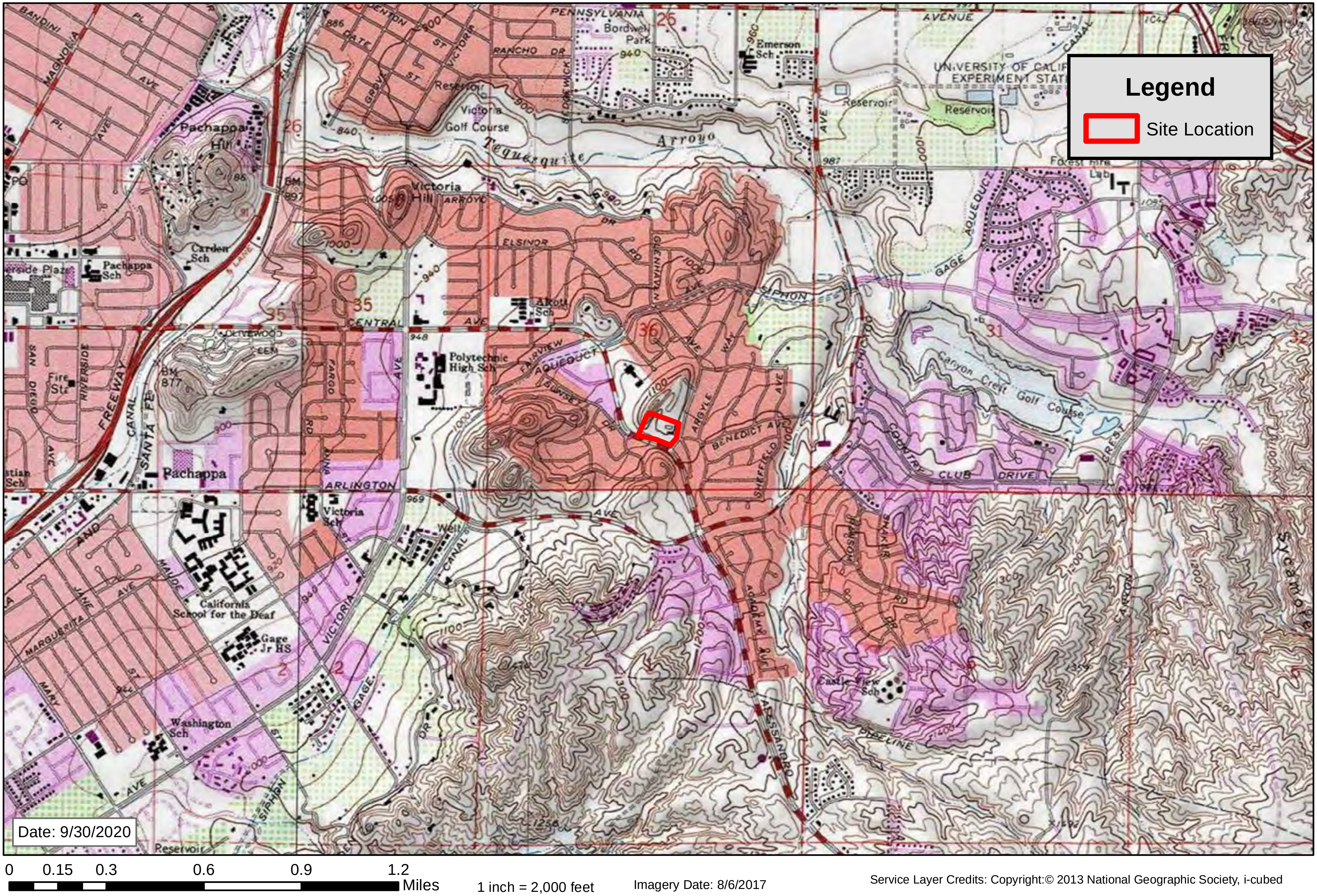

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Figure 2
Site Location

Orangecrest Church
Kimley-Horn

0 0.025 0.05 0.1 0.15 0.2 Miles

1 inch = 333 feet

Imagery Date: 10/19/2018

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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N

Figure 3 Site Location	Orangecrest Church Kimley-Horn

0 0.0125 0.025 0.05 0.075 0.1 Miles

1 inch = 164 feet

Imagery Date: 10/19/2018

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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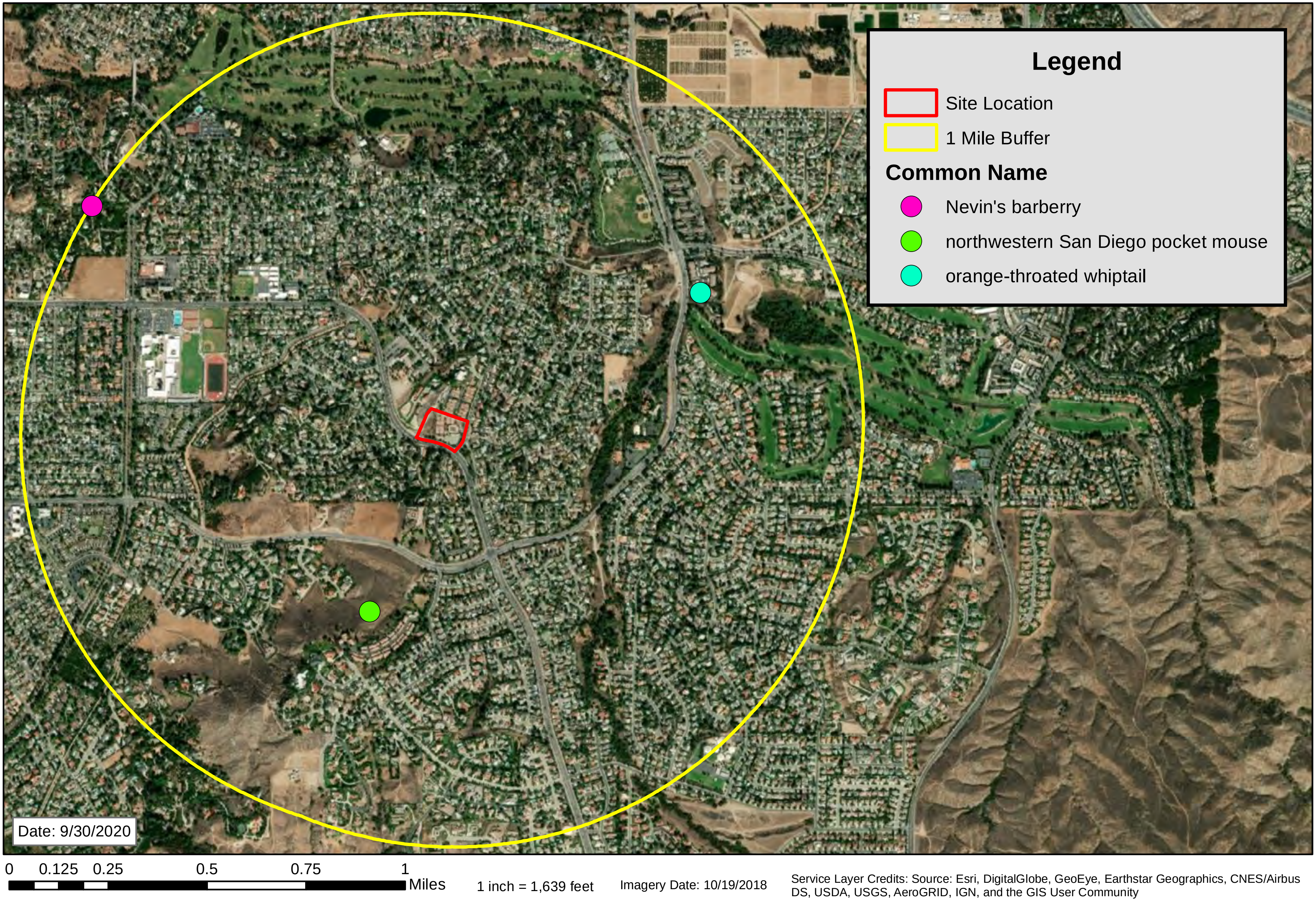
Figure 4 Soils	Orangecrest Church Kimley-Horn



1 inch = 1,639 feet

Imagery Date: 10/19/2018

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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PR-2021-000770 (CUP, DR, GE), Exhibit 10 -Draft Initial Study and Mitigated Negative Declaration

N

Figure 5 CNDDB	Orangecrest Church Kimley-Horn

1 inch = 208 feet

Imagery Date: 8/6/2017

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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N

Figure 6
BUOW Suitable Habitat

Orangecrest Church
Kimley-Horn

Appendix C

Cultural Resources

CULTURAL RESOURCES ASSESSMENT

Orange Crest Church Project

City of Riverside, Riverside County, California

Prepared for:

Kevin Thomas, CEP, ENV SP
Kimley-Horn
3880 Lemon Street, Suite 420
Riverside, California 92501

Prepared by:

David Brunzell, M.A., RPA, Kara Brunzell, M.A., Dylan Williams, B.A.
BCR Consulting LLC
505 W 8th Street
Claremont, California 91711

Project No. KIM2008

National Archaeological Data Base (NADB) Information:
Type of Study: Intensive Survey
Resources Recorded: Riverside Swim and Tennis Club
Keywords: Historic-Period Buildings
USGS Quadrangle: 7.5-minute *Riverside East* (1980), *California*

BCRCONSULTING LLC

February 19, 2021

MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to Kimley-Horn to complete a Cultural Resources Assessment of the Orange Crest Church Project consisting of Assessor Parcel Number (APN) 222-250-006-1 (the project) located in the City of Riverside, Riverside County, California. The project will consist of the development of a new church within approximately 5.27 acres at the northwest corner of Glenhaven Avenue and Alessandro Boulevard. A preliminary cultural resources records search, intensive pedestrian field survey, Sacred Lands File Search, and paleontological overview were conducted for the project site in partial fulfillment of the California Environmental Quality Act (CEQA). Tribal scoping is ongoing.

A cultural resources records search conducted by the Eastern Information Center (EIC) at the University of California, Riverside has revealed that 18 previous cultural resource studies have taken place resulting in the identification of six cultural resources within one half-mile of the project site. The project site has not been subject to previous cultural resources assessment and no cultural resources have been previously identified within its boundaries.

During the field survey, BCR Consulting personnel identified one historic-period resource, the Riverside Swim and Tennis Club. This resource is recommended not eligible for the California Register of Historical Resources (California Register), and does not appear to qualify for local designation. As such, the resource is not considered a "historical resource" under CEQA. Therefore, no significant impact related to historical resources is anticipated and no further cultural resources fieldwork or evaluation is recommended unless:

- The proposed project is changed to include areas that have not been subject to this cultural resource assessment;
- The proposed project is changed to include the construction of additional facilities;
- Cultural materials are encountered during project activities.

The current study also attempted to determine whether significant archaeological deposits were present on the proposed project site. The project site has been subject to severe disturbances related to a former quarry and to development of the Riverside Swim and Tennis Club. Although results indicate low sensitivity for buried resources, ground-disturbing activities do have the potential to reveal buried deposits not observed on the surface. Field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register of Historic Places (National Register), plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;

- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- human remains.

If human remains are encountered during any proposed project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of being granted access to the site.

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FIGURES

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APPENDICES

INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to Kimley-Horn to complete a Cultural Resources Assessment of the Orange Crest Church Project consisting of Assessor Parcel Number (APN) 222-250-006-1 (the project) located in the City of Riverside, Riverside County, California. A preliminary cultural resources records search, intensive pedestrian field survey, Sacred Lands File Search, and paleontological overview were conducted for the project site in partial fulfillment of the California Environmental Quality Act (CEQA). Tribal scoping is ongoing. The project site is located within Section 36 of Township 2 South, Range 5 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) *Riverside East* (1980), *California* 7.5-minute topographic quadrangle (Figure 1).

NATURAL SETTING

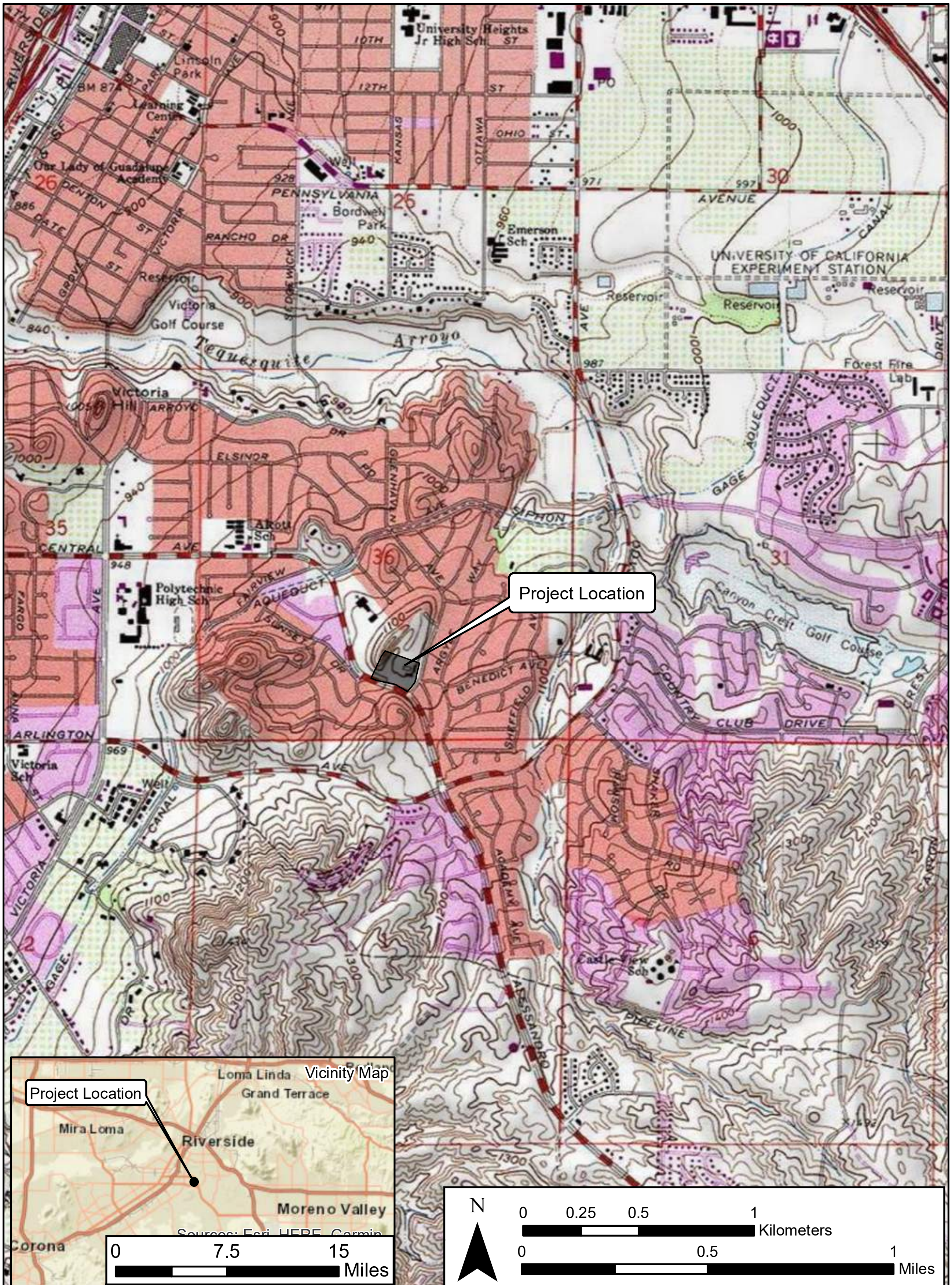
The elevation of the project site ranges from approximately 1070 to 1110 feet above mean sea level (AMSL). It is relatively flat. Local topography exhibits variable slopes with variable aspects that generally convey water in a north-westerly direction. Artificial disturbances consist of mechanical grading and excavation for historic mining/quarrying activities, and to develop the Riverside Swim and Tennis Club, and by filling the pools with imported sediment. The most significant excavation has occurred along the western boundary where a 30-foot hill was excavated flat, leveling it with the eastern portion of the project site. Historic aerials show that the excavation had occurred by 1931 and likely started when the quarry was established in 1919 (see Additional Research, page 11).

Biology

Although mechanical grading has severely impacted the native vegetation, remnants of coastal sage scrub habitat have been observed in the vicinity of the project site (see Williams et al. 2008: 84-90 and 117-123). For details on prehistoric use of these vegetation communities, see Lightfoot and Parrish 2009.

Geology

The project site is located in the Peninsular Range geologic province of California that encompasses western Riverside County. It occupies the eastern margin of the Perris Block (Kenney 1999), which is bounded on the east by the San Jacinto Fault (Reynolds 1988, Morton 1972, 1977). Crystalline rocks present in the region include late Jurassic and cretaceous granitics of the southern California batholith. These resistant rocks weather to form gray or tan colored, boulder-covered conical buttes and hills. Locally, a thin veneer of Holocene soils typically obscures late Pleistocene sediments that often erode away to reveal the base of local boulder outcrops (Rogers 1965). During prehistory in Western Riverside County the boulders that form such outcrops were widely utilized as milling slicks for seed processing. Decomposing granite in the form of light brown sandy silts intermixed with granitic and quartz cobbles dominates sediments observed within the project site.



BCRCONSULTING LLC

Claremont Napa Tehachapi

www.bcrconsulting.net

909-525-7078

Project Location Site

Orange Crest Church Project

Reference: ESRI; USGS Quad: Riverside East (1980), California

Figure 1

Kimley-Horn

CURRENT SETTING

The project site exhibits physiographic characteristics consistent with those described in the Natural Setting section above. Aerial photo research and other sources show that about 80 percent of the project site has been subject to severe disturbances associated with mechanical excavation and grading for mining quarrying activities, and later as part of the construction of the Riverside Swim and Tennis Club between 1948 and 1962, and filling of the pools with fill-soil between March 2011 and June 2012 (Google Earth 2020; USDA 1948, 1962, 2012). No other buildings or improvements have been identified within the project site boundaries. Comprehensive land use history is provided under Additional Research on page 10.

CULTURAL SETTING

Prehistoric Context

The local prehistoric cultural setting has been organized into many chronological frameworks (see Warren and Crabtree 1986; Bettinger and Taylor 1974; Lanning 1963; Hunt 1960; Wallace 1958, 1962, 1977; Wallace and Taylor 1978; Campbell and Campbell 1935), although there is no definitive sequence for the region. The difficulties in establishing cultural chronologies for Riverside County are a function of its enormous size and the small amount of archaeological excavations conducted there. Moreover, throughout prehistory many groups have occupied the area and their territories often overlap spatially and chronologically resulting in mixed artifact deposits. Due to dry climate and capricious geological processes, these artifacts rarely become integrated in-situ. Lacking a milieu hospitable to the preservation of cultural midden, local chronologies have relied upon temporally diagnostic artifacts, such as projectile points, or upon the presence/absence of other temporal indicators, such as groundstone. Such methods are instructive, but can be limited by prehistoric occupants' concurrent use of different artifact styles, or by artifact re-use or re-sharpening, as well as researchers' mistaken diagnosis, and other factors (see Flenniken 1985; Flenniken and Raymond 1986; Flenniken and Wilke 1989). Recognizing the shortcomings of comparative temporal indicators, this study recommends review of Warren and Crabtree (1986), who have drawn upon this method to produce a commonly cited and relatively comprehensive chronology.

Ethnography

The project site is situated within the traditional boundaries of the Cahuilla (Bean and Shipek 1978; Kroeber 1925), and the area was probably also used by Lusieño, Serrano, and Gabrielino.

Cahuilla. The Cahuilla are a member of the Cupan group of the Takic subfamily of languages (Bean and Shipek 1978:550). Like other Native American groups in southern California, the Cahuilla practiced semi-nomadic hunter-gatherer subsistence strategies and commonly exploited seasonably available plant and animal resources. Spanish missionaries were the first outsiders to encounter them during the late 18th century. The Cahuilla are generally divided into three groups: Desert Cahuilla, Mountain Cahuilla, and Western (or Pass) Cahuilla (Kroeber 1925). The term Western Cahuilla is preferred over Pass Cahuilla because this group is not confined to the San Gorgonio Pass area. The distinctions are believed to be primarily geographic, although linguistic and cultural differences may have existed to varying degrees (Strong 1929). Cahuilla territory lies within the geographic center of Southern California and the Cocopa-Maricopa Trail, a major prehistoric trade route, ran through it. The first written accounts of the Cahuilla are attributed to mission fathers; later documentation was by Strong (1929), Bright (1998), and others.

Luiseño. Typically, the native culture groups in southern California are named after nearby Spanish missions, and such is the case for this Takic-speaking population. For instance, the term "Luiseño" is applied to the natives inhabiting the region within the "ecclesiastical jurisdiction of Mission San Luis Rey…[and who shared] an ancestral relationship which is evident in their cosmogony, and oral tradition, common language, and reciprocal relationship in ceremonies" (Oxendine 1983:8). The first written accounts of the Luiseño are attributed to the mission fathers. Sparkman (1908), Oxendine (1983) and others produced later documentation. Prior to Spanish occupation of California, the territory of the Luiseño extended along the coast from Agua Hedionda Creek to the south, Aliso Creek to the northwest, and the Elsinore Valley and Palomar Mountain to the east. These territorial boundaries were somewhat fluid and changed through time. They encompassed an extremely diverse environment that included coastal beaches, lagoons and marshes, inland river valleys and foothills, and mountain groves of oaks and evergreens (Bean and Shipek 1978:551; Kroeber 1925).

Serrano. The Uto-Aztecan "Serrano" people occupied the western Mojave Desert periphery. Kroeber (1925) applied the generic term "Serrano" to four groups, each with distinct territories: the Kitanemuk, Tataviam, Vanyume, and Serrano. Only one group, in the San Bernardino Mountains and West-Central Mojave Desert, ethnically claims the term Serrano. Bean and Smith (1978) indicate that the Vanyume, an obscure Takic population, was found along the Mojave River at the time of Spanish contact. The Kitanemuk lived to the north and west, while the Tataviam lived to the west. The Serrano lived mainly to the south (Bean and Smith 1978). All may have used the western Mojave area seasonally. Historical records are unclear concerning precise territory and village locations.

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the vicinity is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Beattie and Beattie 1974; Cleland 1941).

City of Riverside. The City of Riverside was settled in the a land rush to the western United States in the latter half of the nineteenth century. John W. North, a townsite developer, judge, and surveyor for the Southern California Colony Association, accompanied a party to the area in 1870. North had a vision for establishing a colony of well-educated, religious citizens who would work for the betterment of the colony. After acquiring land along the banks of the Santa Ana River, North and his party began building an upper canal from the river. Once the canal reached their new settlement in 1871, the townsite was named Riverside, a post office was established, and it became a small utopian agricultural community. Financial straits forced Riverside to be sold to rival developers Samuel Cary Evans and William Sayward in 1874. The two men consolidated 15,000 acres of land into the Riverside Land and Irrigating Company, spurring the development and sale of land to new residents. It was around this time that Riverside settlers Luther and Eliza Tibbets introduced navel oranges to the region, setting the stage for the economic dominance of citrus in Riverside. The Southern Californian climate was favorable for orange cultivation and the fruit's tough exterior made it ideal for shipping. By 1882, nearly a quarter of California's citrus trees were located in Riverside. As agriculture and the citrus industry drew more people to the area, a 60% majority of its residents voted to incorporate the Riverside Land and Irrigating Company lands as a city in 1883. Riverside began to expand eastward as its population increased. As the California Southern Railroad graded land and built tracks to the young city, many Chinese immigrants who worked in railroad construction also arrived in Riverside and established their own community on the edge of the present-day downtown area. In 1893, the city became the Riverside County seat after its formation by an act of the state legislature. Later developments such as refrigerated railroad cars and innovative irrigation systems further bolstered the local economy, making Riverside the state's wealthiest city by 1895 (City of Riverside; Gudde 1962:256; Lech 2007:7; Patterson 1971:194-195; Stewart 1987:9).

Through the early twentieth century, Riverside's vast orange groves drew thousands of wealthy visitors to the city. At the same time, the lucrative citrus industry spurred the transformation of Riverside from an agrarian community to a thriving city featuring large brick buildings, community parks, stately homes, and luxurious amenities. Numerous hotels sprang up to host the masses passing through the city. Beginning with Benjamin Harrison, the city hosted several U.S. Presidents over subsequent years, including Presidents William McKinley, Theodore Roosevelt, William Howard Taft, and Herbert Hoover. The citrus industry continued its economic dominance, with packinghouses and their packers increasing in number through the 1890s. Machine-powered sorting and packing began to take hold by the early 1900s, and steadily increased through the 1930s. Manufacturing industries arose to supplement citrus packing. In the 1920s, reorganized city planning began to take hold in Riverside. Spanish and Mission Revival architecture became the encouraged standard for new buildings in an effort to exhibit a fantasy version of the city's early Californian history. During this period, segregation had forced many of the African-American and Hispanic residents to the east side of the city, with white, more affluent residents remaining downtown or moving to the west side of the city. In the late 1920s and early 1930, the more affluent downtown became populated by chain stores among pristine Victorian homes from Riverside's early years. Meanwhile, paving of new roads near Riverside under the Works Progress Administration and the increased activity of nearby March Field Air Force Base brought more visitors to the city, where they could live in close proximity to their place of employment. In the years leading up to World War II, acreage devoted to orange groves began to dwindle in the midst of wartime concerns and gradual suburbanization (City of Riverside; Freeman 2009:12; Lech 2007:7; Patterson 1971:259-391).

World War II increased activity at March Field (and in Riverside). The Riverside area was removed from the densely populated ports and large cities throughout the rest of Southern California. As such, the area's large open spaces were quickly utilized for temporary and permanent military installations hosting training and manufacturing for the war efforts. March Field, originally only encompassing one square mile, was expanded on all sides to accommodate the rapid influx of military installations and personnel. Camp Haan, built in 1940, and Camp Anza, built in 1942, were expediently constructed outposts near Riverside that accommodated the tens of thousands working or training at March Field. The increased travel to Riverside and the surrounding area ran so high during the war years that military personnel and non-service members alike struggled to find housing, temporary or permanent. After the war, Riverside experienced a massive boom in suburbanization and urban diversification that was reflected across much of the country. Between 1950 and 1960, Riverside's population increased from 46,399 to 83,714 – an increase of about 80 percent. Subdivisions and the creation of new residential lots numbered between 1,000 and 2,000 lots each year. By that time, the city limits had nearly doubled to 72 square miles. The 1950s also saw the rise of academic institutions in Riverside that would serve as new attractions for the burgeoning city. In 1955, California Baptist College (presently University) moved into a 75-acre retirement facility Magnolia Avenue. The University of California established the Citrus Experiment Station at the base of Mount Rubidoux in 1907, for the purpose of citrus research. Academic classes were added in 1954, and in 1959, it became the home of the University of California, Riverside branch of the university system. Large-scale commercial growth also marked the mid-to-late twentieth century in Riverside. The Riverside Plaza, an open-air shopping center and one of the first mall-like developments in Southern California, was constructed in 1956-1957. The $45-million Tyler Mall joined the Plaza as a commercial hub when it was built as a single-story indoor mall in 1970. Built in the mid-1950s, the Riverside

International Raceway provided prime entertainment for local residents and racing fans nationwide from 1957 to 1989. The venue hosted all major racing circuits. Today, Riverside has continued its growth to become the largest city in Riverside County, with a population of more than 300,000 within 81 square miles of city limits. The project site was planted in citrus groves until the quarry was established in 1919. The local setting remained unchanged until the 1950s and 1960s when subdivisions began to proliferate. (Freeman 2009:65, 75-79, 88; Patterson 1971:405, 411-415). The project site is located in the Victoria neighborhood of Riverside, formerly part of Arlington Heights. The majority of Victoria has been within the Riverside City limits since incorporation although the eastern-most portion was added in two annexations in 1960 and 1961 (City of Riverside 2015).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager and Principal Archaeologist for the current study. Mr. Brunzell assisted with research, provided project oversight, and authored the technical report. BCR Consulting Architectural Historian Kara Brunzell acted as Principal Architectural Historian/Historian, provided oversight for research and completion of the Department of Park and Recreation (DPR) 523 forms, and co-authored the report. BCR Consulting Archaeological Crew Chief Joseph Orozco, M.A., RPA completed a preliminary records search using files housed at BCR Consulting and through colleagues. The final records search is pending. BCR Consulting Historian Dylan Williams completed archival research, assisted completion of the DPR forms, and co-authored the report. Mr. Williams completed the cultural resources field survey with BCR Consulting Archaeological Crew Chief Nicholas Shepetuk, B.A.

METHODS

Research

A preliminary records search was conducted by BCR Consulting staff using results from previously completed cultural resources reports in the surrounding area, review of the National Register of Historic Places, California State Historical Landmarks, California Points of Historical Interest, Riverside County Historical Landmarks, Landmarks of the City of Riverside, and Historic Districts of Riverside. In addition the Built Environment Resource Directory (BERD) was reviewed for Riverside County. Additional land use history research was performed through the City of Riverside, the Riverside Public Library, the Riverside County Assessor and Recorder, General Land Office records of the Bureau of Land Management, and the County of Riverside Robert J. Fitch Archives.

Field Survey

An intensive-level cultural resources field survey of the project site was conducted on August 20 and 26, 2020. The survey was conducted by walking parallel transects spaced approximately 10-15 meters apart across the project site. The historic-period Riverside Swim and Tennis Club was recorded on DPR 523 forms. Context views and detail photographs were taken of the historic-period resource and at various points within the project boundaries (see Appendix B). Cultural resources were recorded per the California OHP *Instructions for Recording Historical Resources* in the field using:

- Detailed note taking for entry on DPR forms (Appendix A)
- Hand-held Garmin Global Positioning systems for mapping purposes.

Sacred Land File Search and Tribal Scoping

BCR Consulting has contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File Search and for a list of Native American tribes to contact. One notification and project maps were sent to the NAHC, and to each listed Native American Tribe via regular mail and/or email. BCR Consulting has contacted all entities listed to discern whether any tribe or individual has knowledge of cultural resources, including tribal cultural resources and cultural landscapes, within the project boundaries. CEQA guidelines define a tribal cultural resource as a site, feature, place, cultural landscape, sacred place or object, which is of cultural value to a tribe and is either on or eligible for listing in the California Register of Historical Resources, or that the lead agency at its discretion chooses to treat as a tribal cultural resource. Please note that correspondence with tribes during this process are for information purposes only. These communications are not intended to take the place of Assembly Bill (AB) 52 or Senate Bill (SB) 18 government to government consultation between tribal governments and the lead agency for CEQA. AB52 and SB18 requirements are described in detail below.

Senate Bill 18. California Senate Bill 18 states that prior to a local (city or county) government's adoption of any general plan or specific plan, or amendment to general and specific plans, or a designation of open space land proposed on or after March 1, 2005, the city or county shall conduct consultations with California Native American tribes for the purpose of preserving or mitigating impacts to Cultural Places.

A Cultural Place is defined in the PRC sections 5097.9 and 5097.995 as:

1. Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (PRC Section 5097.9), or;
2. Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources pursuant to Section 5024.1, including any historic or prehistoric ruins, any burial ground, or any archaeological or historic site (PRC Section 5097.995).

The intent of SB-18 is to establish meaningful consultation between tribal governments and local governments ("government-to-government") at the earliest possible point in the planning process so that cultural places can be identified and preserved and to determine necessary levels of confidentiality regarding Cultural Place locations and uses. According to the Government Code (GC) Section 65352.4, "consultation" is defined as:

The meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American Tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance.

Assembly Bill 52. California Assembly Bill 52 was approved on September 25, 2014. As stated in Section 11 of AB 52, the act applies only to projects that have a notice of preparation or a notice of negative declaration or mitigated negative declaration filed on or after July 1, 2015.

AB 52 establishes "tribal cultural resources" (TCRs) as a new category of resources under CEQA. As defined under Public Resources Code Section 21074, TCRs are "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either: (1) included or determined to be eligible for inclusion in the CRHR; included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or (2) determined by the lead agency to be significant pursuant to the criteria for inclusion in the CRHR set forth in Public Resources Code Section 5024.1(c), if supported by substantial evidence and taking into account the significance of the resource to a California Native American tribe. A "historical resource" as defined in Public Resources Code Section 21084.1, a "unique archaeological resource" as defined in Public Resources Code Section 21083.2(g), or a "nonunique archaeological resource" as defined in Public Resources Code Section 21083.2(h) may also be TCRs.

AB 52 further establishes a new consultation process with California Native American tribes for proposed projects in geographic areas that are traditionally and culturally affiliated with that tribe. Per Public Resources Code Section 21073, "California Native American tribe" includes federally and non-federally recognized tribes on the NAHC contact list. Subject to certain prerequisites, AB 52 requires, among other things, that a lead agency consult with the geographically affiliated tribe before the release of an environmental review document for a proposed project regarding project alternatives, recommended mitigation measures, or potential significant effects, if the tribe so requests in writing. If the tribe and the lead agency agree upon mitigation measures during their consultation, these mitigation measures must be recommended for inclusion in the environmental document (Public Resources Code Sections 21080.3.1, 21080.3.2, 21082.3, 21084.2, and 21084.3).

Since the City will initiate and carry out any required SB18 and AB52 Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff are available to answer questions and address comments as necessary.

RESULTS

Research

Records Search. Research completed through the EIC indicates that 18 previous cultural resource studies have taken place resulting in the identification of six cultural resources within one half-mile of the project site. The project site has not been subject to previous cultural resources assessment and no cultural resources have been previously identified within its boundaries. The records search results are summarized as follows:

Table A. Cultural Resources Within One Mile of the Project Site

USGS 7.5 Min Quad	Cultural Resources Within One Mile of Project Site
Riverside East, California (1980)	P-33-4768: Historic Water Conveyance System P-33-13927: Prehistoric Bedrock Milling Site P-33-20333: Historic Trash Scatter; Historic Dam P-33-23874: Prehistoric Bedrock Milling Site P-33-23957: Prehistoric Bedrock Milling Site P-33-23986: Historic Single Family Property

Table B. Cultural Resource Studies Within One Mile of the Project Site

Reports Within One Mile of Project Site
RI-3190: 1990 Peak and Associates *Part III, Addendum to Cultural Resources Assessment of AT&Ts Proposed San Bernardino to San Diego Fiber Optic Cable, San Bernardino, Riverside, and San Diego Counties, California*
RI-3491:1991 Hallaran, Kevin *The Gage Canal: A Narrative History (Excerpt from Draft Haer Report, PP 108-180)*
RI-3895: 1995 White, Robert S., *An Archaeological Assessment of the EMTMAN NO.2 Reservoir Site: A 5.9 Acre Parcel Located Southwest of the Intersection of Sunset Ranch Road and Arlington Ave, Riverside County*
RI-4404:2000 Jones and Stokes Associates Inc., *Final Cultural Resources Inventory Report for the Williams Communications Inc. Fiber Optic Cable System Installation Project , Riverside to San Diego, California VOL I-IV*
RI-4813: 1993 National Park Service, Haer, *California Citrus Heritage Recording Project: Photographs, Written Historical and Descriptive Data, Reduced Copies of Measured Drawings for: Arlington Height Citrus Landscape, Gage Irrigation Canal, National Orange Company Packing House, Victoria Bridge, And Union Pacific Railroad Bridge*
RI-5056: 2003 Mckenna Et Al, *A Phase I Cultural Resources Investigation for the Proposed Corona Feeder Master Plan Project Area Riverside County, California*
RI-5709: 2003 Dreckman, Jessica, *Letter Report : Proposed Cellular Tower Project in RIverside County, California, Site Name/Number: CA- 7232A/ Poly Tech*
RI-5807: 2004 Kyle, Carolyn E, *Cultural Resource Assessment for AT&T Wireless Facility 950-003-527D, Glenhaven Court, City of Riverside, Riverside County, California*
RI-8274: 2009 Allred, Carla, *Letter Report: Proposed Cellular Tower Project(s) in Riverside County California, Site Number(s)/ Name(s): CA-2500/ Chicago TCNS# 58076*
RI-8333: 2010 Wlodarski, Robert, *Letter Report: Conducted a Record Search and Field Reconnaissance Phas for the Proposed AT&T Wireless Telecommunications Site RS0042 (Evergreen Masonic Center) 5801 Chicago Avenue, Riverside, California 92506.*
RI-8597: 2010 Jeannette A. McKenna and Kristina Lindgren, *A Summary Report on the Proposed Improvements at the Polytechnic High School Campus in the City of Riverside, Riverside County*
RI-8692: 2011 Wayne H.Bonner and Arabesque Said, *Letter Report: Cultural Resources Record Search and Site Visit Results for T-Mobile USA Candidates IE24213-D*
RI-8798: 2012 Bai “Tom” Tang, Michael Hogan, and Daniel Ballester, *Historical/ Archaeological Resources survey Report: Tentative Tract Map No. 3677*
RI-8918: 2012 Bai “Tom” Tang, Michael Hogan, *Historical/ Archaeolgical Resources Survey Report, Tentative Tract Map No. 36377, City of Riverside, Riverside County California*
RI-9166: 2014 Bai Tang, Michael Hogan, *Historic Building Evaluation La Altalaya 5800 Hawarden Drive, City of Riverside, Riverside, California*

Reports Within One Mile of Project Site
RI-9330: 2015 Mariam Dahdul, Daniel Ballester, and Nina Gallardo, *Historical/ Archaeological Resources Survey Report: Tentative Tract Map No. 36703, City of Riverside, Riverside County, California*
RI-9463: 2014 Bai Tang and Michael Hogan, *Historical/ Archaeological Resources Survey Report Tentative Tract Map No. 36604 and Tentative Parcel Map Nos. 36630 and 36631 City of Riverside, Riverside County, California*
RI-9991: 1998 Roger D. Mason and Wayne H. Bonner, *Cultural Resources Records Search and Literature Review for a Pacific Bell Mobile Services Telecommunication Facility: CM 196-91 City of Riverside, California*

Additional Research. As early as 1919, the subject property made up part of a quarry owned by the city of Riverside. The materials mined there were primarily used for street improvements and pavement in the surrounding area, particularly as subdivisions started to emerge. Historic aerial photographs from the 1930s show the property heavily graded and exhibiting inroads for access, as the city of Riverside began using the subject property as a storage yard. The roads adjacent to the property remained unpaved and citrus groves dominated lots east and south of the subject property, with subdivisions beginning to appear to the northwest. The property remained undeveloped and surrounded by orange groves and unpaved roads into the 1950s. By the 1960s, several subdivisions had begun to replace the surrounding orange groves. City building permits indicate that the project site's current layout was configured in 1961. Joe Miller and J. B. Stringfellow were the owners and contractors, while the Riverside Engineering Company was listed as architect.

Miller was a coach for the Riverside Swim Club, and he coached aquatics at Riverside City College. Stringfellow purchased the Riverside quarry, selling a portion for a subdivision development but retaining approximately five acres for the Riverside Swim and Tennis Club

J.B. Stringfellow, Sr. and J.B. Stringfellow, Jr. James Bankhead Stringfellow was born in Amarillo, Texas in 1897 and relocated with his family to Los Angeles, where they operated a lumber mill (Los Angeles Directory 1924). He married Irene Diehl in 1922 and lived in Los Angeles. Their son James Bankhead Stringfellow, Jr. was born in 1927 and their daughter Nancy two years later (US Census 1930). By 1930, Stringfellow was the owner of his own construction company, which worked throughout Southern California from the 1930s to 1960s. Irene worked as an apartment manager during this period. James and Irene Stringfellow divorced at some point during the 1930s and by 1940 Irene and the children were living on their own in Los Angeles and J.B. Stringfellow, Sr. was living with a business associate's family in Indio (US Census 1940). He later moved to Riverside and married a woman named Gwendolyn. By the 1950s, he had begun operating quarries as well as working as a contractor, and gave his occupation as "quarry contractor" in 1951 (Riverside Directory 1951). J.B. Stringfellow Co. was awarded contracts throughout the region for heavy construction of structures such as levees and sea walls. Stringfellow died in 1965.

J.B. Stringfellow, Jr. served in the US Navy during World War II and was discharged in 1946 (Valley Times 1946). The following year, he married Barbara Burgeson. J.B. Stringfellow, Jr. followed his father into the quarry business in the 1950s, and in 1955 began allowing toxic waste to be dumped in a disused quarry in the Jurupa Hills. The Stringfellow Acid Pits released toxic clouds and were suspected of leaking into groundwater. They became notorious as the "Love Canal of California" in the 1970s (Press Enterprise 2010). The historical record is somewhat confusing because the two men shared a name, but it appears that both father and son were involved in the quarry business prior to the death of J.B. Stringfellow, Sr. During the early 1960s, documents show that J.B. Stringfellow Co. was a partnership between father and son.

Building permits do not specify which Stringfellow owned the property; J.B. Stringfellow, Sr. and J.B. Stringfellow, Jr. were working together during this era and both may have been involved in the swim club's development as well as the quarry business. Two buildings (one for snacks and recreation, one for dressing rooms and office space), three tennis courts, and an Olympic-sized swimming pool were built at the project site in 1961. By 1962, several tennis and basketball courts were built to the west and north of the swimming facilities and the Riverside Swim Club was established on the property. By the 1970s, more tennis courts had replaced the basketball courts north of the swimming pool, and the facility was renamed the Riverside Swim and Tennis Club. The facility hosted its own swim and tennis teams, which competed with clubs from neighboring communities and cities in the Inland Empire. The enterprise was not profitable and the property changed hands several times after Stringfellow's heirs sold it in 1973. In 1975, more tennis courts were added to the property. The city of Riverside purchased the property in 1986, but continued to lease it to the club. In the 1990s and 2000s, disputes over rent payments due to the city and the Riverside Swim Club's continued unprofitability prompted the City to entertain selling and redeveloping the property. During this time, the tennis courts remained open to the public and available for rent. The pools were demolished and filled in with dirt in 2011 (CRBSD 1961; Desert Sun 1962; Press Enterprise 1998, 1999, 2000; Riverside County Assessor; San Bernardino County Sun 1964; USDA 1931, 1938, 1952, 1962, 1978).

Field Survey

During the field survey, BCR Consulting personnel identified the historic-period Riverside Swim and Tennis Club. This cultural resource occupies the eastern two thirds of the property. The western third of the project site is not developed. The Riverside Swim and Tennis Club is described below and has been documented using California DPR 523 forms (Appendix A). No additional cultural resources were identified within the project site boundaries. The project site exhibited approximately 50 percent surface visibility on the western undeveloped portion of the project site, and approximately five percent within the developed portion. Vegetation included white sage, date palm trees and a variety of non-native shrubs, trees, and seasonal grasses.

Riverside Swim and Tennis Club. The subject property was formerly used as a swim and tennis club. Two historic-age buildings, two demolished pools, and eight tennis courts remain on the property. The pool deck and tennis courts are enclosed by cement block walls and chain-link fencing. In the center of the pool deck is a large pool that has been demolished and filled with dirt. A smaller pool (also filled with dirt) is located about 30 feet southwest of the large pool. Building A is located south of the large pool, while Building B is located on the east side of the pool deck. Both buildings are rectangular in plan and share architectural features typical of the mid-century modern style. Building A, formerly used for office space and dressing rooms for the Riverside Swim and Tennis Club, has a flat roof with exposed structural beams.

It is constructed of square concrete masonry units with decorative concrete masonry unit screen walls along the street facade. At the northeast corner of the building, an extension of the roof overhang shelters a built-in L-shaped desk. Building B, formerly used for snack and recreational space for the Club, also features concrete masonry walls and a flat roof with exposed structural members and deep overhang. All windows and doors have been boarded up. The buildings are in fair condition. In the center of the facility, between the pool deck and tennis courts, there is a vacant garden area. The area is filled with dirt, but some of the wood used to line planters is still visible. Eight tennis courts are situated to the west and north of the pool deck. They are partitioned by tall chain-link fences and connected by a concrete walkway. The courts show significant neglect, as the concrete is cracked and overgrown with weeds. South of the enclosed pool deck and tennis courts is a large asphalt-paved parking lot. The parking lot is in poor condition, with large cracks and potholes forming in the asphalt. A small ancillary structure, featuring a flat roof and concrete veneer cladding, is situated in the south corner of the parking lot.

Sacred Land File Search and Tribal Scoping

The NAHC replied on August 19, 2020. Results of Sacred Land File Search did not indicate the presence of Native American cultural resources, and recommended that the below groups/ individuals be contacted. BCR Consulting sent notifications to tribes on October 16, 2020. Correspondence is summarized below and available responses are attached in their entirety (Appendix C). These are up to date as of October 22, 2020. Please note that this process should not be considered final until tribes have been allowed 30 days to respond, on or about November 16, 2020. The final responses will be included with the final version of this report.

Table C. Tribal Scoping Correspondence Summary

Groups Contacted*	Response from Tribes
Agua Caliente Band of Cahuilla Indians Jeff Grubbe, Chairperson	No response received as of 10/22/2020**
Agua Caliente Band of Cahuilla Indians Patricia Garcia-Plotkin, Director	Ms. Garcia-Plotkin responded to request a copy of the records search results, a cultural resources inventory, a copy of cultural resource documentation, and to recommend compliance with State Health and Safety Code 7050.5 for the accidental discovery of human remains.
Augustine Band of Cahuilla Mission Indians Amanda Vance, Chairperson	No response received as of 10/22/2020**
Cabazon Band of Mission Indians Doug Welmas, Chairperson	No response received as of 10/22/2020**
Cahuilla Band of Indians Daniel Salgado, Chairperson	Mr. Esparza responded to request that “a tribal monitor from Cahuilla be present during all ground disturbing activities and to be notified of all updates with the project moving forward.”
Los Coyotes Band of Mission Indians Shane Chapparosa, Chairperson	No response received as of 10/22/2020**
Morongo Band of Mission Indians Robert Martin, Chairperson	No response received as of 10/22/2020**
Morongo Band of Mission Indians Denisa Torres, Cultural Resources Manager	No response received as of 10/22/2020**

Groups Contacted*	Response from Tribes
Pala Band of Mission Indians Shasta Gaughen, THPO	No response received as of 10/22/2020**
Pechanga Band of Mission Indians Paul Macarro, Cultural Resources Coordinator	No response received as of 10/22/2020**
Pechanga Band of Mission Indians Mark Macarro, Chairperson	No response received as of 10/22/2020**
Quechan Tribe of the Fort Yuma Reservation Manfred Scott, Acting Chairman	No response received as of 10/22/2020**
Quechan Tribe of the Fort Yuma Reservation Jill McCormick, Historic Preservation Officer	No response received as of 10/22/2020**
Ramona Band of Cahuilla Mission Indians John Gomez, Environmental Coordinator	No response received as of 10/22/2020**
Ramona Band of Cahuilla Mission Indians Joseph Hamilton, Chairperson	No response received as of 10/22/2020**
Rincon Band of Luiseno Indians Cheryl Madrigal, THPO	No response received as of 10/22/2020**
Rincon Band of Luiseno Indians Bo Mazzetti, Chairperson	No response received as of 10/22/2020**
Santa Rosa Band of Cahuilla Indians Lovina Redner, Tribal Chair	No response received as of 10/22/2020**
Soboba Band of Luiseno Indians Joseph Ontiveros, Cultural Resource Dept.	No response received as of 10/22/2020**
Soboba Band of Luiseno Indians Scott Cozart, Chairperson	No response received as of 10/22/2020**
Torres-Martinez Desert Cahuilla Indians Michael Mirelez, Cultural Resources	No response received as of 10/22/2020**

*Notifications sent by email to all tribal representatives but two. Emails were not available for Agua Caliente Band of Cahuilla Indians Chairperson Jeff Grubbe, or for Los Coyotes Band of Mission Indians Chairperson Shane Chapp arosa. Notifications were sent to both by US Postal Service.
**To be finalized on or about November 16, 2020.

SIGNIFICANCE EVALUATIONS

Because this work was completed pursuant to CEQA, the resource identified within the project site boundaries requires evaluation for the California Register. The City of Riverside Community Development Department Consultant Requirements for Cultural Resources Survey, Studies and Reports Information Sheet also indicates that evaluation for local designation eligibility should be performed per City of Riverside Municipal Code Title 20 (Cultural Resources Ordinance), County Landmark, etc. Since there is no federal review of this project, National Register of Historic Places eligibility evaluation is not required.

California Register of Historical Resources

The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

1. It is associated with events that may have had a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; and/or

4. It has yielded or has the potential to yield, information important to prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after the date of this report, all resources older than 45 years will require evaluation. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Local Designation Eligibility

A review of the City Historic Resources Inventory, Existing and Potential Historic District and Neighborhood Conservation Areas, and Landmarks of the City of Riverside were all completed for the project site. Chapter 20.50.010 of the City municipal code defines a City Landmark as:

> any improvement or natural feature that is an exceptional example of a historical, archaeological, cultural, architectural, community, aesthetic or artistic heritage of the City, retains a high degree of integrity, and meets one or more of the following criteria:
>
> 1. Exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history;
>
> 2. Is identified with persons or events significant in local, state or national history;
>
> 3. Embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;
>
> 4. Represents the work of a notable builder, designer, or architect, or important creative individual;
>
> 5. Embodies elements that possess high artistic values or represents a significant structural or architectural achievement or innovation;

6. Reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning, or cultural landscape;

7. Is one of the last remaining examples in the City, region, State, or nation possessing distinguishing characteristics of an architectural or historical type or specimen; or

8. Has yielded or may be likely to yield, information important in history or prehistory.

An improvement or natural feature meeting one or more of the above criteria, yet not having the high degree of integrity to qualify as a landmark, may qualify as a structure or resource of merit (see subsection "Secretary of Interior's Standards for the Treatment of Historic Properties," below). An improvement or natural feature meeting one or more of the above criteria, yet not formally designated as a landmark by the City Council, may be an eligible landmark.

California Register Evaluation

Criterion 1: The former Riverside Swim and Tennis Club was developed in 1961 within the general context of postwar suburbanization in Riverside. Research into the property's land-use history has revealed no significant association with important events related to the development of Riverside's suburbs in the surrounding area. Nor has research revealed important associations with the development of recreational or competitive sports. It is therefore recommended not eligible for the California Register under Criterion 1.

Criterion 2: Substantial research has not linked the subject property with individuals who have been notable in local, state, or national history. Contemporaneous newspapers did not reveal any notable contributions to civic life or impacts on local history by its first owners. J. B. Stringfellow, Sr. was a successful contractor and business owner in Southern California from the 1930s to the 1960s; however research did not reveal any impactful accomplishments made by him or his company. J.B. Stringfellow, Jr. became notorious beginning in the 1970s as the owner of the Stringfellow Acid Pits (although his father is likely to also have been involved in their initial establishment) but the subject property has no significant associations with the context of the toxic waste site. Co-owner Joe Miller made little impact on the historical record and the details of his biography were not revealed by research. He does not appear to have been a particularly influential swimming coach or to have made lasting contributions to the sport. No notable or historically significant swimmers nor tennis players were found to have had long associations with the facility. The property is therefore recommended not eligible for the California Register under Criterion 2.

Criterion 3: The two buildings on the property are common examples of mid-century modern architecture and lack notable aesthetic elements. Nor do they exhibit groundbreaking engineering or functional design features. While the designer of the property, the Riverside Engineering Company, was involved in numerous regional building projects beginning the 1920s, research has revealed no evidence that they designed any architecturally significant buildings. The subject property does not 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. It is therefore recommended not eligible for the California Register under Criterion 3.

Criterion D/4: Riverside Swim and Tennis Club is a well understood property type, and as such the resource has not and is not likely to yield information important in prehistory or history.

The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing in the California Register, and as such is not recommended a historical resource under CEQA.

Local Designation Evaluation

1. Research has not indicated that the subject property and its constituent historic-age buildings and features exemplify or reflect special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history.

2. Research failed to associate the subject property with any persons or events significant in local, state or national history.

3. Research and analysis has shown that the subject property and its constituent historic-age buildings and features do not embody distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship as defined in the midcentury modern architecture section of the Riverside modernism context (City of Riverside 2009).

4. The project site and its buildings and features do not represent the work of a notable builder, designer, or architect, or important creative individual.

5. The project site and its buildings and features do not embody elements that possess high artistic values or represent a significant structural or architectural achievement or innovation.

6. Research has failed to show that the subject property reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning, or cultural landscape.

7. Since research and analysis has demonstrated that the project site does not possess distinguishing characteristics, it is not one of the last remaining examples in the City, region, State, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

8. The project site has been subject to severe disturbances associated with previous mining activities and the development of the Riverside Swim and Tennis Club. It has not and is not likely to yield information important in history or prehistory.

The site therefore does not qualify as a City Landmark. A review of the City Historic Resources Inventory, Existing and Potential Historic District and Neighborhood Conservation Areas, and Landmarks of the City of Riverside failed to indicate that the project site had been locally designated. It is therefore recommended not eligible for Local Designation.

RECOMMENDATIONS

During the field survey, BCR Consulting personnel identified one historic-period resource, the Riverside Swim and Tennis Club. The field survey and research have indicated that this resource is not eligible for the California Register of Historical Resources (California Register), and does not appear to qualify for local designation. As such, the resource is not considered a "historical resource" under CEQA. Therefore, no significant impact related to historical resources is anticipated and no further cultural resources fieldwork or evaluation is recommended unless:

- The proposed project is changed to include areas that have not been subject to this cultural resource assessment;
- The proposed project is changed to include the construction of additional facilities;
- Cultural materials are encountered during project activities.

The current study also attempted to determine whether significant archaeological deposits were present on the proposed project site. The project site has been subject to severe disturbances related to a former quarry and to development of the Riverside Swim and Tennis Club. Although results indicate low sensitivity for buried resources, ground-disturbing activities do have the potential to reveal buried deposits not observed on the surface. Field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register of Historic Places (National Register), plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- human remains.

If human remains are encountered during any proposed project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of being granted access to the site.

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APPENDIX A

DEPARTMENT OF PARK AND RECREATION 523 FORMS

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code **Reviewer** **Date**

 ***Resource Name or #:** Riverside Swim and Tennis Club

P1. Other Identifier: 5695 Glenhaven Avenue

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**
***a. County:** Riverside
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Riverside East, CA **Date:** 1980 **T**2S; **R**5W; Section 36**;** SBBM

c. Address: 5695 Glenhaven Ave. City: Riverside Zip: 92506
d. UTM: Zone: N/A mE/ Elevation: 1100' AMSL
e. Other Locational Data: Assessor Parcel Number 222-250-006; Located north of the intersection of Alessandro Boulevard and Glenhaven Avenue.

***P3a. Description:** The subject property was formerly used as a swim and tennis club, with two historic-age buildings, two demolished pools, and eight tennis courts remaining on the property. The pool deck and tennis courts are enclosed by cement block walls and chain-link fencing. In the center of the pool deck is a large pool that has been demolished and back-filled with dirt. About 30 feet southwest of the large pool is a smaller pool. The smaller pool is in the same condition as the larger one. Building A is located south of the large pool, while Building B is located on the east side of the pool deck. Both buildings are rectangular in plan and share architectural features typical of the mid-century modern style. Building A, formerly used for office space and dressing rooms for the Riverside Swim and Tennis Club, has a flat roof with exposed structural beams. It is constructed of square concrete masonry units with decorative concrete masonry unit screen walls along the street facade. At the northeast corner of the building, an extension of the roof overhang shelters a built-in L-shaped desk. Building B, formerly used for snack and recreational space for the Club, also features concrete masonry walls and a flat roof with exposed structural members and deep overhang. All of the windows and doors to the buildings have been boarded up. Buildings are in fair condition. In the center of the facility, between the pool deck and tennis courts, there is a vacant garden area. The area is completely filled with dirt, but some of the wood used to line planters is still visible. Eight tennis courts are situated to the west and north of the pool deck. Each one is separated tall chain-link fences, and a concrete walkway connects them to one another. The courts show significant neglect, as the concrete is largely cracked and many overgrown weeds cover the court. South of the enclosed pool deck and tennis courts is a large asphalt-paved parking lot. The parking lot is in poor condition, with large cracks and potholes forming in the asphalt. A small ancillary structure, featuring a flat roof and concrete veneer cladding, is situated in the south corner of the parking lot. **(Cont. page 3)**

***P3b. Resource Attributes:** HP39. Other

P5a. Photo or Drawing **(**Photo required for buildings, structures, and objects.)

***P4. Resources Present:**
☑ Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☑ Other

P5b. Description of Photo: (View, date, accession #) Photo 1: Overview of the subject property from Glenhaven Avenue (View East).

***P6. Date Constructed/ Age and Sources:** ☑Historic constructed in 1961 (City of Riverside 1961) ☐ Prehistoric ☐Both

***P7. Owner and Address:**

***P8. Recorded by:**
K. Brunzell, D. Williams
BCR Consulting LLC
Claremont, California 91711

***P9. Date:** 8/20/20

***P10. Survey Type:** Intensive.

***P11. Report Citation:**

***Attachments:** ☐NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

 ***NRHP Status Code**: 6Z ***Resource Name or #** Riverside Swim and Tennis Club

B1. Historic Name: Riverside Swim Club, Riverside Tennis Center
B2. Common Name: N/A
B3. Original Use: Recreation
B4. Present Use: Recreation
***B5. Architectural Style:** Mid-century
***B6. Construction History:** The buildings and swimming pool were built in 1961. While three of the tennis courts on the property were built in 1961, five more were added c1975. Restrooms were removed from one of the buildings in 1987, and both were re-roofed in 2002. The swimming pools were demolished in 2011 (CRBSD 1961, 2011; Press-Enterprise 1996; USDA 1967, 1978).
***B7. Moved?** ☑**No** ☐**Yes** ☐**Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Riverside Engineering Company b. Builder: Joe Miller and J. B. Stringfellow
***B10. Significance:** N/A **Theme:** N/A
Area: N/A **Period of Significance:** N/A
Property Type: N/A **Applicable Criteria:** N/A
Theme: N/A **Area:** N/A
Period of Significance: N/A **Property Type:** N/A
Applicable Criteria: N/A B11. **Additional Resource Attributes**: N/A
(Discuss importance in terms of historical/architectural context by theme, period, and geographic scope. Address Integrity.)

City of Riverside

The city of Riverside was settled in the land rush to the western United States in the latter half of the nineteenth century. John W. North, a townsite developer, judge, and surveyor for the Southern California Colony Association, accompanied a party to the area in 1870. North had a vision for establishing a colony of well-educated, religious citizens who would work for the betterment of the colony. After acquiring land along the banks of the Santa Ana River, North and his party began building an upper canal from the river. Once the canal reached their new settlement in 1871, the townsite was named Riverside, a post office was established, and it became a small utopian agricultural community. Financial straits forced Riverside to be sold to rival developers Samuel Cary Evans and William Sayward in 1874. The two men consolidated 15,000 acres of land into the Riverside Land and Irrigating Company, spurring the development and sale of land to new residents. It was around this time that Riverside settlers Luther and Eliza Tibbets introduced navel oranges to the region, setting the stage for the economic dominance of citrus in Riverside. **(Cont. page 10)**

***B12. References:**

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(Sketch Map with north arrow required.)

***B14. Evaluators:** Dylan Williams, Kara Brunzell, BCR Consulting, Claremont, California

***Date of Evaluation:** 8/21/2020

***P3a. Description (continued from page 1):**

Photo 2: Overview of palm trees along the property line on Glenhaven Avenue (View North)

Photo 3: Close-up of the ornate screen wall near the northeast corner of the property (View North)

Photo 4: Overview of the parking lot (View West)

Photo 5: Overview of the demolished main pool; Buildings A and B in the foreground (View Southeast)

Photo 6: Overview of the east and north elevations of Building A; formerly housing the main office and dressing rooms (View Southwest)

Photo 7: Alternate overview of the west and north elevations of Building A (View Southeast)

CONTINUATION SHEET

Photo 8: Overview of the west elevation of Building B; formerly housing snack and recreational space for the Riverside Swim and Tennis Club (View Northeast)

Photo 9: Alternate overview of the north and west elevations of Building B (View Southeast)


Photo 10: Concrete shuffleboard installations between Building B and the northern tennis courts (View East)


Photo 11: Overview of the demolished and filled-in main swimming pool; Building B visible in the background (View East)

Photo 12: Overview of the demolished and filled-in smaller swimming pool (View Northeast)

Photo 13: Overview of the vacant garden area between the pool deck and tennis courts (View South)

Photo 14: Overview of the north tennis courts; complex of courts are separated by green chain-link fences (View West)

Photo 15: Overview of the parking lot south of the swimming and tennis facilities; ancillary structure is pictured left (View Southwest)

***B10 (continued from page 2).**
The Southern Californian climate was favorable for orange cultivation and the fruit's tough exterior made it ideal for shipping. By 1882, nearly a quarter of California's citrus trees were located in Riverside. As agriculture and the citrus industry drew more people to the area, a 60% majority of its residents voted to incorporate the Riverside Land and Irrigating Company lands as a city in 1883. Riverside began to expand eastward as its population increased. As the California Southern Railroad graded land and built tracks to the young city, many Chinese immigrants who worked in railroad construction also arrived in Riverside and established their own community on the edge of the present-day downtown area. In 1893, the city became the Riverside County seat after its formation by an act of the state legislature. Later developments such as refrigerated railroad cars and innovative irrigation systems further bolstered the local economy, making Riverside the state's wealthiest city by 1895 (City of Riverside; Gudde 1962:256; Lech 2007:7; Patterson 1971:194-195; Stewart 1987:9).

Through the early twentieth century, Riverside's vast orange groves drew thousands of wealthy visitors to the city. At the same time, the lucrative citrus industry spurred the transformation of Riverside from an agrarian community to a thriving city featuring large brick buildings, community parks, stately homes, and luxurious amenities. Numerous hotels sprang up to host the masses passing through the city. Beginning with Benjamin Harrison, the city hosted several U.S. Presidents over subsequent years, including Presidents William McKinley, Theodore Roosevelt, William Howard Taft, and Herbert Hoover. The citrus industry continued its economic dominance, with packinghouses and their packers increasing in number through the 1890s. Machine-powered sorting and packing began to take hold by the early 1900s, and steadily increased through the 1930s. Manufacturing industries arose to supplement citrus packing. In the 1920s, reorganized city planning began to take hold in Riverside. Spanish and Mission Revival architecture became the encouraged standard for new buildings in an effort to exhibit an fantasy version of the city's early Californian history. During this period, segregation had forced many of the African-American and Hispanic residents to the east side of the city, with white, more affluent residents remaining downtown or moving to the west side of the city. In the late 1920s and early 1930, the more affluent downtown became populated by chain stores among pristine Victorian homes from Riverside's early years. Meanwhile, paving of new roads near Riverside under the Works Progress Administration and the increased activity of nearby March Field Air Force Base brought more visitors to the city, where they could live in close proximity to their place of employment. In the years leading up to World War II, acreage devoted to orange groves began to dwindle in the midst of wartime concerns and gradual suburbanization (City of Riverside; Freeman 2009:12; Lech 2007:7; Patterson 1971:259-391).

World War II increased activity at March Field (and in Riverside). The Riverside area was removed from the densely populated ports and large cities throughout the rest of Southern California. As such, the area's large open spaces were quickly utilized for temporary and permanent military installations hosting training and manufacturing for the war efforts. March Field, originally only encompassing one square mile, was expanded on all sides to accommodate the rapid influx of military installations and personnel. Camp Haan, built in 1940, and Camp Anza, built in 1942, were expediently constructed outposts near Riverside that accommodated the tens of thousands working or training at March Field. The increased travel to Riverside and the surrounding area ran so high during the war years that military personnel and non-service members alike struggled to find housing, temporary or permanent.

After the war, Riverside experienced a massive boom in suburbanization and urban diversification that was reflected across much of the country. Between 1950 and 1960, Riverside's population increased from 46,399 to 83,714 – an increase of about 80 percent. Subdivisions and the creation of new residential lots numbered between 1,000 and 2,000 lots each year. By that time, the city limits had nearly doubled to 72 square miles through annexations. The 1950s also saw the rise of academic institutions in Riverside that would serve as new attractions for the burgeoning city. In 1955, California Baptist College (presently University) moved into a 75-acre retirement facility Magnolia Avenue. Large-scale commercial growth also marked the mid-to-late twentieth century in Riverside.The Riverside Plaza, an open-air shopping center and one of the first mall-like developments in Southern California, was constructed in 1956-1957. The $45-million Tyler Mall joined the Plaza as a commercial hub when it was built as a single-story indoor mall in 1970. Built in the mid-1950s, the Riverside International Raceway provided prime entertainment for local residents and racing fans nationwide from 1957 to 1989. The venue hosted all major racing circuits.

The University of California had established the Citrus Experiment Station at the base of Mount Rubidoux in 1907. Academic classes were added in 1954, and in 1959, it became the University of California, Riverside. Expanded local manufacturing and the presence of the University amplify existing growth trends, and Riverside's population grew to 140,089 in 1970. City services such as the fire department and library system were screened by population growth and had to be substantially expanded, as did the public school system. TToday, Riverside has continued its growth to become the largest city in Riverside County, with a population of more than 300,000 within 81 square miles of city limits. (City of Riverside, 2009:8-10, Freeman 2009:65, 75-79, 88; Patterson 1971:405, 411-415).

Subject Property History

Although outside the urbanized area for many decades, the Victoria neighborhood was within Riverside's original city limits. As early as 1919, the subject property made up part of a quarry owned by the city of Riverside. The materials mined there were primarily used for street improvements and pavement in the surrounding area, particularly as subdivisions started to emerge. Historic aerial photographs from the 1930s show the property heavily graded and exhibiting inroads for access, as the city of Riverside began using the subject property as a storage yard. The roads adjacent to the property remained unpaved and citrus groves dominated lots east and south of the subject property, with subdivisions beginning to appear to the northwest. The property remained undeveloped and surrounded by orange groves and unpaved roads into the 1950s. By the 1960s, several subdivisions had begun to replace the surrounding orange groves. City planning permits indicate that the present-day property was developed in 1961. Joe Miller and J. B. Stringfellow were the first owners and the billed contractors, while the Riverside Engineering Company was listed as the architect. Miller was a coach for the Riverside Swim Club, in addition to coaching aquatics at Riverside City College. Stringfellow purchased the Riverside quarry, selling a portion for a subdivision development but retaining approximately five acres for the Riverside Swim and Tennis Club

J.B. Stringfellow, Sr. and J.B. Stringfellow, Jr.

James Bankhead Stringfellow was born in Amarillo, Texas in 1897 and relocated with his family to Los Angeles, where they operated a lumber mill (Los Angeles Directory 1924). He married Irene Diehl in 1922 and lived in Los Angeles. Their son James Bankhead Stringfellow, Jr. was born in 1927 and their daughter Nancy two years later. (US Census 1930) By 1930, Stringfellow was the owner of his own construction company, which worked throughout Southern California from the 1930s to 1960s. Irene worked as an apartment manager during this period. James and Irene Stringfellow divorced at some point during the 1930s and by 1940 Irene and the children were living on their own in Los Angeles and J.B. Stringfellow, Sr. was living with a business associate's family in Indio (US Census 1940). He later moved to Riverside and married a woman named Gwendolyn. By the 1950s, he had begun operating quarries as well as working as a contractor, and gave his occupation as "quarry contractor" in 1951 (Riverside Directory 1951). J.B. Stringfellow Co. was awarded contracts throughout the region for heavy construction of structures such as levees and sea walls.. Stringfellow died in 1965.

J.B. Stringfellow, Jr. served in the US Navy during World War II and was discharged in 1946 (Valley Times 1946). The following year, he married Barbara Burgeson. J.B. Stringfellow, Jr. followed his father into the quarry business in the 1950s, and in 1955 began allowing toxic waste to be dumped in a disused quarry in the Jurupa Hills. The Stringfellow Acid Pits released toxic clouds and were suspected of leaking into groundwater, and became notorious as the "Love Canal of California" in the 1970s (Press Enterprise 2010). The historical record is somewhat confusing because the two men shared a name, but it appears that both father and son were involved in the quarry business prior to the death of J.B. Stringfellow, Sr. During the early 1960s, documents show that J.B. Stringfellow Co. was a partnership between father and son.

Building permits do not specify which Stringfellow owned the property; J.B. Stringfellow, Sr. and J.B. Stringfellow, Jr. were working together during this era and both may have been involved in the swim club's development as well as the quarry business. Two buildings (one for snacks and recreation, one for dressing rooms and office space), three tennis courts, and an Olympic-sized swimming pool were built that year. By 1962, several tennis and basketball courts were built to the west and north of the swimming facilities and the facility was the home of the Riverside Swim Club. By the 1970s, more tennis courts had replaced the basketball courts north of the swimming pool, and the name of the facility had become the Riverside Swim and Tennis Club. The facility hosted its own swim and tennis teams, which competed with clubs from neighboring communities and cities in the Inland Empire. After proving unprofitable, the property changed hands several times between different families once Stringfellow's heirs sold it in 1973. In 1975, more tennis courts were added to the property. The city of Riverside purchased the property in 1986, but continued to lease it to the club. In the 1990s and 2000s, disputes over the club's lack of rent payment to the city and its unprofitability resulted in the city attempting to sell the property and entertain multiple redevelopment proposals. During this time, the tennis courts remained open to the public and available for rentals. The pools were demolished and filled in with dirt in 2011 (CRBSD 1961; Desert Sun 1962; Press Enterprise 1998, 1999, 2000; Riverside County Assessor; San Bernardino County Sun 1964; USDA 1931, 1938, 1952, 1962, 1978).

Evaluation

The National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) requires that a significance criterion (A-D and 1-4) be met for a resource to be eligible. A resource is eligible if (A/1) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (B/2) it is associated with the lives of persons important in California's past; (C/3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or (D/4) it has yielded or is likely to yield information important in prehistory or history. The California Register also requires that sufficient time has passed since a resource's period of significance (normally 45 years) to "obtain a scholarly perspective on the events or individuals associated with the resources" (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Criterion A/1: The former Riverside Swim and Tennis Club was developed in 1961 within the general context of postwar suburbanization in Riverside. Research into the property's land-use history has revealed no significant association with important events related to the development of Riverside's suburbs in the surrounding area. Nor has research revealed important associations with the development of recreational or competitive sports. It is therefore recommended not eligible for the NRHP or CRHR under Criterion A/1.

Criterion B/2: Substantial research has not linked the subject property with individuals who have been notable in local, state, or national history. Contemporaneous newspapers did not reveal any notable contributions to civic life or impacts on local history by its first owners. J. B. Stringfellow, Sr. was a successful contractor and business owner in Southern California from the 1930s to the 1960s; however research did not reveal any impactful accomplishments made by him or his company. J.B. Stringfellow, Jr. became notorious beginning in the 1970s as the owner of the Stringfellow Acid Pits (although his father is likely to also have been involved in their initial establishment) but the subject property has no significant associations with the context of the toxic waste site. Co-owner Joe Miller made little impact on the historical record and the details of his biography were not revealed by research. He does not appear to have been a particularly influential swimming coach or to have made lasting contributions to the sport. No notable or historically significant swimmers nor tennis players were found to have had long associations with the facility. The property is therefore recommended not eligible for the NRHP or CRHR under Criterion B/2.

Criterion C/3: The two buildings on the property are common examples of mid-century modern architecture and lack notable aesthetic elements. Nor do they exhibit groundbreaking engineering or functional design features. While the designer of the property, the Riverside Engineering Company, was involved in numerous regional building projects beginning the 1920s, research has revealed no evidence that they designed any architecturally significant buildings. The subject property does not 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. It is therefore recommended not eligible for the NRHP or CRHR under Criterion C/3.

Criterion D/4: Riverside Swim and Tennis Club is a well understood property type, and as such the resource has not and is not likely to yield information important in prehistory or history.

The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing on the NRHP or CRHR, and as such is not recommended a historical resource under the California Environmental Quality Act (CEQA). Thus BCR Consulting recommends the National Register of Historic Places (NRHP) Status Code "6Z".

APPENDIX B

PROJECT PHOTOGRAPHS

Photo 1: overview of the large pool and building B (view E)

Photo 2: ancillary structure in S part of parking lot (view S)

Photo 3: Building B overview (view NE)

Photo 4: Building A overview (view SW)

Photo 5: Parking lot overview (view WNW)

Photo 6: overview of quarried/undeveloped W side of project site (view NW)

Photo 7: overview of quarried/undeveloped west side of project site (view S)

APPENDIX C

TRIBAL SCOPING

Chairperson
Laura Miranda
Luiseño

Vice Chairperson
Reginald Pagaling
Chumash

Secretary
Merri Lopez-Keifer
Luiseño

Parliamentarian
Russell Attebery
Karuk

Commissioner
Marshall McKay
Wintun

Commissioner
William Mungary
Paiute/White Mountain Apache

Commissioner
Julie Tumamait-Stenslie
Chumash

Commissioner
[**Vacant**]

Commissioner
[**Vacant**]

Executive Secretary
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

August 19, 2020

Joseph Orozco
BCR Consulting LLC

Via Email to: josephorozco513@gmail.com

Re: Orange Crest Church Project, Riverside County

Dear Mr. Orozco:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Riverside County
8/19/2020

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pechanga Band of Luiseno Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

This list is current only as of the date of this document. 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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Orange Crest Church Project, Riverside County.

Native American Heritage Commission
Native American Contact List
Riverside County
8/19/2020

Pechanga Band of Luiseno Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Ramona Band of Cahuilla
John Gomez, Environmental Coordinator
P. O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramona-nsn.gov

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Rincon Band of Luiseno Indians
Cheryl Madrigal, Tribal Historic Preservation Officer
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 297 - 2635
crd@rincon-nsn.gov

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosacahuilla-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians
Scott Cozart, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92583 — Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Orange Crest Church Project, Riverside County.

Native American Heritage Commission
Native American Contact List
Riverside County
8/19/2020

Torres-Martinez Desert Cahuilla Indians Michael Mirelez, Cultural Resource Coordinator P.O. Box 1160 Thermal, CA, 92274 Phone: (760) 399 - 0022 Fax: (760) 397-8146 mmirelez@tmdci.org	Cahuilla

This list is current only as of the date of this document. 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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Orange Crest Church Project, Riverside County.

October 16, 2020

Tribal Representative

Subject: Tribal Scoping for the Orange Crest Church Project, Riverside, Riverside County, California

To Whom it May Concern:

This is an invitation to comment on a proposed development project at locations with which you have Tribal cultural affiliation. The purpose of the Tribal Scoping is to ensure the protection of Native American cultural resources on which the proposed project may have an impact. In the Tribal Scoping process, early communication is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project, and to avoid costly delays. Further, we understand that much of the content of the correspondence will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties, such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes.

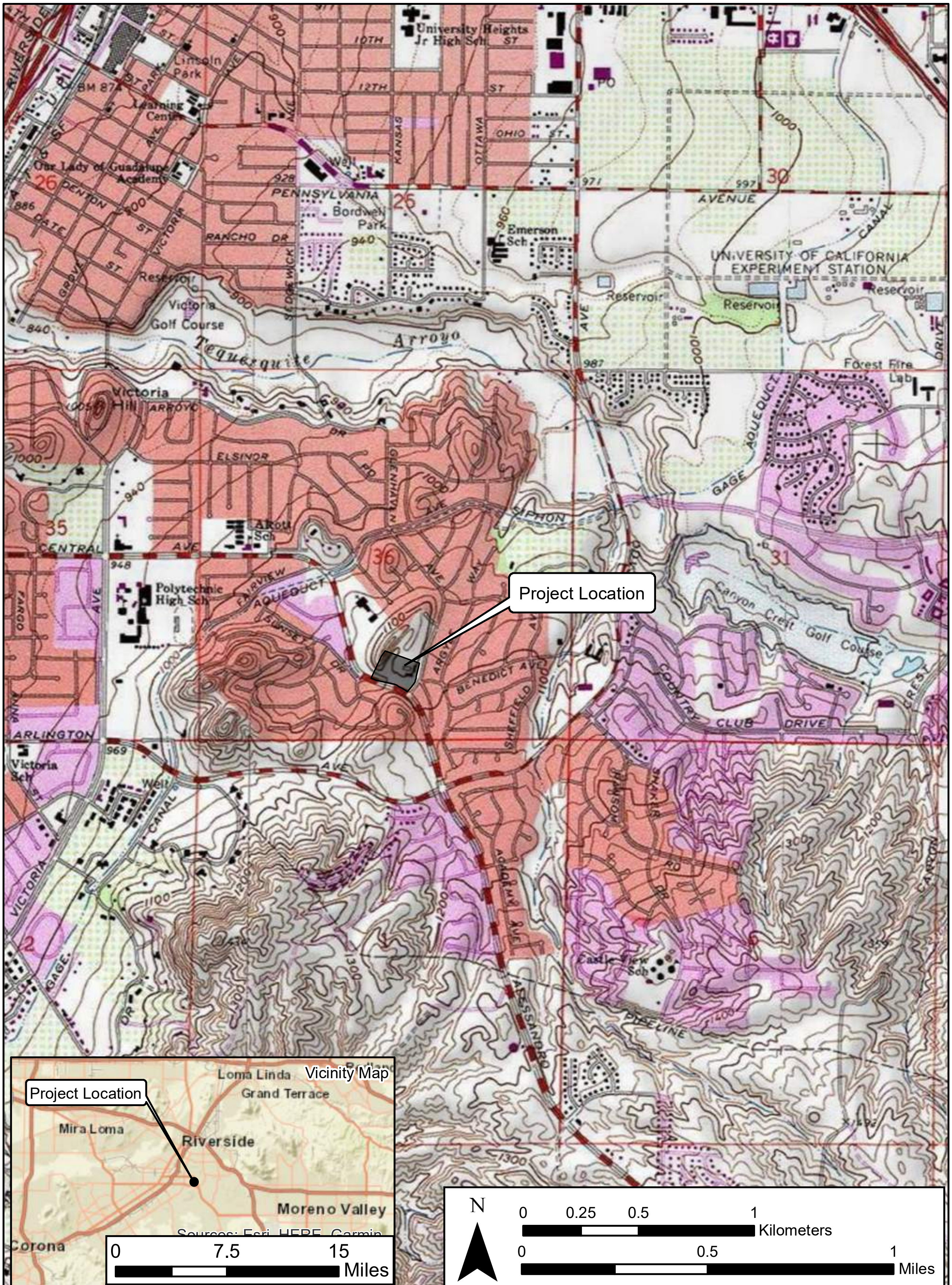
The proposed project is located in Section 36 of Township 2 South, Range 5 West, San Bernardino Baseline and Meridian. The property is depicted on the *Riverside East* (1980), *California* 7.5-minute USGS topographic quadrangle, (see attached map). The project will include construction and landscaping for a proposed church at approximately 5.27 acres near the northwest corner of Alessandro Boulevard and Glenhaven Avenue.

If you know of any cultural resources in the vicinity that may be of religious and/or cultural significance to your community or if you would like more information, please contact me at 909-525-7078 or david.brunzell@yahoo.com. Correspondence can also be sent to BCR Consulting LLC, Attn: David Brunzell, 505 West 8th Street, Claremont, California 91711. Thank you for your involvement in this process.

Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA
Principal Investigator/Archaeologist



BCRCONSULTING LLC Claremont Napa Tehachapi www.bcrconsulting.net 909-525-7078	Project Location Site Orange Crest Church Project Reference: ESRI; USGS Quad: Riverside East (1980), California	Figure 1	Kimley-Horn

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

03-013-2020-007

October 19, 2020

[VIA EMAIL TO:david.brunzell@yahoo.com]
BCRCONSULTING LLC
Mr. David Brunzell
505 West 8th Street
Claremont, CA 91711

Re: Orange Crest Church

Dear Mr. David Brunzell,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the Orangecrest Community Church project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*A copy of the records search with associated survey reports and site records from the information center.

*A cultural resources inventory of the project area by a qualified archaeologist prior to any development activities in this area.

*Copies of any cultural resource documentation (report and site records) generated in connection with this project.

*Should human remains be discovered during construction of the proposed project, the project contractor would be subject to either the State law regarding the discovery and disturbance of human remains or the Tribal burial protocol. In either circumstance all destructive activity in the immediate vicinity shall halt and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5. If the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) shall be contacted. The NAHC will make a determination of the Most Likely Descendent (MLD). The City and Developer will work with the designated MLD to determine the final disposition of the remains.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6907. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

Patricia Garcia-Plotkin

Pattie Garcia-Plotkin
Director
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

Re: Tribal Scoping for Orange Crest Church Project, Riverside

From: BobbyRay Esparza (besparza@cahuilla.net)

To: david.brunzell@yahoo.com

Cc: anthonymad2002@gmail.com

Date: Monday, October 19, 2020, 12:12 PM PDT

Hello,

The Cahuilla Band of Indians received your scoping letter regarding the above project located in Riverside County, Ca. We do not have knowledge of any cultural resources within or near the project area. Although this project is outside the Cahuilla reservation boundary, it is within the Cahuilla traditional land use area. Therefore, we do have an interest. We believe that cultural resources may be unearthed during construction. We request a tribal monitor from Cahuilla be present during all ground disturbing activities and to be notified of all updates with the project moving forward. The Cahuilla Band of Indians appreciates your assistance in preserving Tribal Cultural Resources in your project.

Respectfully,

BobbyRay Esparza
Cultural Coordinator
Cahuilla Band of Indians
Cell: (760)423-2773
Office: (951)763-5549
Fax:(951)763-2808

From: Daniel Salgado <CHAIRMAN@CAHUILLA.NET>
Sent: Friday, October 16, 2020 4:00 PM
To: BobbyRay Esparza <Besparza@cahuilla.net>; Anthony Madrigal Sr <Amadrigalsr@cahuilla.net>
Cc: Charles Betts <Cbetts@cahuilla.net>
Subject: Fwd: Tribal Scoping for Orange Crest Church Project, Riverside

FYI...

Daniel Salgado
Tribal Council Chairman
Cahuilla Band of Indians

From: David Brunzell <david.brunzell@yahoo.com>
Sent: Friday, October 16, 2020 2:33:18 PM
To: Daniel Salgado <CHAIRMAN@CAHUILLA.NET>
Subject: Tribal Scoping for Orange Crest Church Project, Riverside

Dear Chairman Salgado,

Please find a tribal scoping request and project maps attached for the proposed Orange Crest Church Project in the City of Riverside.

Sincerely,

David Brunzell
Principal Investigator/Archaeologist

BCR Consulting LLC
U.S. Small Business Administration (SBA) Member

505 West 8th Street
Claremont, California 91711
909-525-7078

www.bcrconsulting.net

October 28, 2020

Sent via email to: david.brunzell@yahoo.com

Re: Orange Crest Church Project, Riverside, California

Dear Mr. Brunzell,

This letter is written on behalf of the Rincon Band of Luiseño Indians ("Rincon Band" or "Band"), a federally recognized Indian Tribe and sovereign government. We have received your notification regarding the above referenced project and we thank you for the opportunity to provide information pertaining to cultural resources. The identified location is within the Territory of the Luiseño people, and is also within Rincon's specific area of Historic interest.

Embedded in the Luiseño territory are Rincon's history, culture and identity. We do not have knowledge of cultural resources within the proposed project area. However, this does not mean that none exist. We recommend that an archaeological record search be conducted and ask that a copy of the results be provided to the Rincon Band.

If you have additional questions or concerns, please do not hesitate to contact our office at your convenience at (760) 297-2635 or via electronic mail at cmadrigal@rincon-nsn.gov. We look forward to working together to protect and preserve our cultural assets.

Sincerely,

Cheryl Madrigal
Tribal Historic Preservation Officer
Cultural Resources Manager

APPENDIX E

PALEONTOLOGICAL OVERVIEW

BCR Consulting LLC
Joseph Orozco
505 West 8th Street
Claremont, CA 91711

September 11, 2020

Dear Mr. Orozco,

This letter presents the results of a record search conducted for the Orange Crest Church Project in the city of Riverside, Riverside County, California. The project site is located north of Alessandro Boulevard, Township 2 South, Range 5 West in Section 36 on the Riverside East CA USGS 7.5 minute quadrangle.

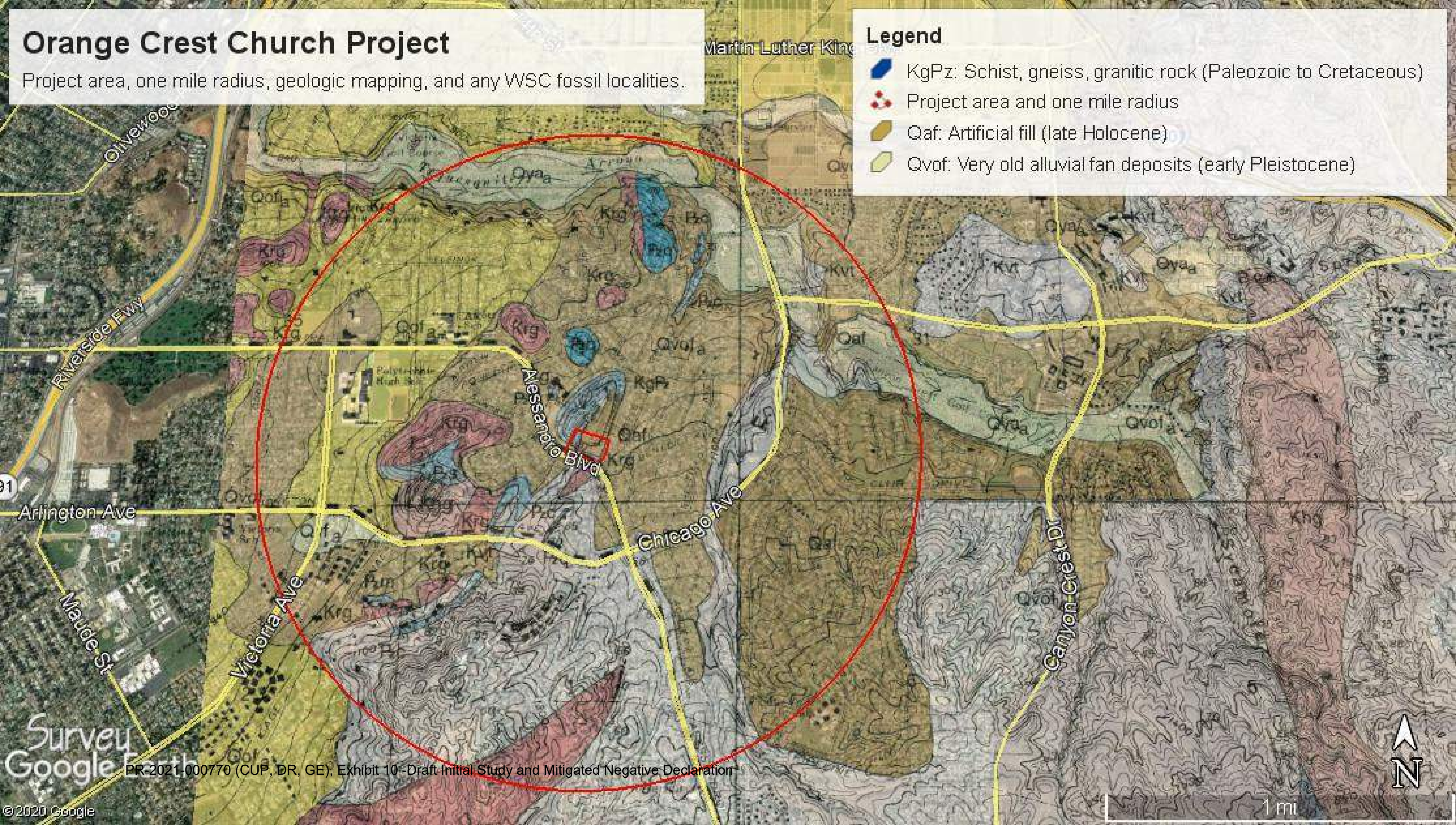
The geologic units underlying this project are mapped primarily as artificial fill dating to the late Holocene period, with a small segment of schist dating from the Paleozoic to the Cretaceous on the western project boundary, and alluvial fan deposits dating to the early Pleistocene in the southwestern corner of the project area (Morton, 1997). Holocene fill and Paleozoic schist deposits are considered to be of low paleontological sensitivity, while the small segment of early Pleistocene alluvial fan is considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area or within a 1 mile radius.

While the presence of any fossil material is unlikely in most of the project area, excavation activity set to disturb the Pleistocene alluvial units could produce scientifically significant fossil material. Excavation activity associated with the development of the majority of the project area is unlikely to be paleontologically sensitive, but caution during development should be observed in the southwest project area.

If you have any questions or would like further information, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,

Darla Radford
Collections Manager


Orange Crest Church Project
Project area, one mile radius, geologic mapping, and any WSC fossil localities.
Legend
KgPz: Schist, gneiss, granitic rock (Paleozoic to Cretaceous)
Project area and one mile radius
Qaf: Artificial fill (late Holocene)
Qvof: Very old alluvial fan deposits (early Pleistocene)
Martin Luther King
Riverside Fwy
Arlington Ave
Alessandro Blvd
Chicago Ave
Victoria Ave
Maude St
Canyon Crest Dr
Sycamore
Polytechnic High Sch
1 mi
N
© 2020 Google
Google Earth

Appendix D

Geotechnical Report

GEOTECHNICAL INVESTIGATION
PROPOSED ORANGECREST COMMUNITY CHURCH CAMPUS

5695 Glenhaven Avenue
Riverside, California
For
Orangecrest Community Church

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

January 13, 2021

Orangecrest Community Church
P.O. Box 2799
Riverside, California 92516

Attention: Mr. Jon McWhorter
Associate Pastor

Project No.: **20G238**

Subject: **Geotechnical Investigation**
Proposed Orangecrest Community Church Campus
5695 Glenhaven Avenue
Riverside, California

Mr. McWhorter:

In accordance with your request, we have conducted a geotechnical investigation at the subject site. We are pleased to present this report summarizing the conclusions and recommendations developed from our investigation.

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Daniel W. Nielsen, RCE 77915
Senior Engineer

Daryl Kas, CEG 2467
Senior Geologist

Robert G. Trazo, M.Sc., GE 2655
Principal Engineer

Distribution: (1) Addressee

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Presented below is a brief summary of the conclusions and recommendations of this investigation. Since this summary is not all inclusive, it should be read in complete context with the entire report.

Geotechnical Design Considerations

- The subject site is underlain by artificial fill soils used to backfill excavations made for former mining operations. Based on our understanding of the site history, mining of granitic bedrock materials was performed at the site. These mining activities had ceased, and the excavations were backfilled with soil sometime prior to 1948. Construction of the existing tennis facility and former swimming pools commenced in 1966.
- The fill soils consist of fine to coarse sands, silty sands, and occasional fine sandy silts with varying coarse sand and varying gravel content. The fill soils also contain significant debris content including concrete and rebar, asphalt, and brick fragments of varying size, and wood chips. At the boring and trench locations, the fill soils extend to depths of 1 to 23± feet below the existing site grades. No documentation regarding the placement of these fill soils is known to exist.
- The existing fill soils possess variable strengths, densities, and the results of laboratory testing indicate that some of the existing fill soils possess a potential for excessive settlements when loaded, and hydrocollapse when wetted. The existing fill soils, in their present condition, are not considered suitable for the support of the proposed structures.
- The most feasible method to develop this site is considered to be removal and recompaction of the existing undocumented fill soils. It is recommended that the fill soils be removed in their entirety within the proposed building areas in order to support the proposed structures on shallow foundation systems.
- Design considerations for new floor slabs and foundations related to the existing buildings that will remain with the proposed development are presented in Section 6.2 of this report.

Site Preparation

- Demolition of the existing structures, tennis courts, and pavements will be necessary to facilitate the proposed development. Any subsurface improvements that will not be reused with the proposed development, including utilities, foundations, and remnants of the former swimming pools should also be removed in their entirety. Debris resultant from demolition should be disposed of offsite. Alternatively, concrete and asphalt debris may be pulverized to a maximum 2-inch particle size, well mixed with the on-site soils, and incorporated into new structural fills, or it may be crushed into miscellaneous base (CMB).
- Site stripping of any existing vegetated areas should include all vegetation, organic soils, and root masses. These materials should be disposed of offsite.
- Remedial grading is recommended to be performed within the new building pad areas to remove the undocumented fill soils in their entirety. Additionally, the overexcavation should also be extend to a depth of at least 5 feet below the proposed foundation bearing grade, due to the differing support characteristics of the very dense bedrock materials and compacted fill soils.
- After overexcavation has been completed, the resulting subgrade soils and/or bedrock materials should be evaluated by the geotechnical engineer to identify any additional soils

that should be overexcavated, moisture conditioned, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. The previously excavated soils and bedrock materials may then be replaced as compacted structural fill.

- The new parking area subgrade soils are recommended to be scarified to a depth of 12± inches, thoroughly moisture conditioned and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.

Building Foundations

- Conventional shallow foundations, supported in newly placed compacted fill.
- 3,000 lbs/ft^2 maximum allowable soil bearing pressure.
- A reduced allowable soil bearing pressure of 1,000 lbs/ft^2 is recommended for new foundations in the existing building areas where it will not be feasible to overexcavate all of the existing undocumented fill soils.
- Reinforcement consisting of at least four (4) No. 5 rebars (2 top and 2 bottom) in strip footings due to the presence of expansive soils. Additional reinforcement may be necessary for structural considerations.

Building Floor Slabs

- Conventional Slabs-on-Grade, at least 4 inches thick.
- Reinforcement is not considered necessary for geotechnical considerations. The actual thickness and reinforcement of the floor slabs should be determined by the structural engineer.

Pavements

ASPHALT PAVEMENTS (R = 40)			
Materials	**Thickness (inches)**		
	Parking Stalls (TI = 4.0)	Auto Drive Lanes (TI = 5.0)	Light Truck Traffic (TI = 6.0)
Asphalt Concrete	3	3	3½
Aggregate Base	3	4	6
Compacted Subgrade	12	12	12

PORTLAND CEMENT CONCRETE PAVEMENTS (R = 40)	
Materials	**Thickness (inches)**
	Automobile and Light Truck Traffic (TI =5.0 & 6.0)
PCC	5
Compacted Subgrade (95% minimum compaction)	12

2.0 SCOPE OF SERVICES

The scope of services performed for this project was in accordance with our Proposal No. 20P399R, dated November 30, 2020. The scope of services included a visual site reconnaissance, subsurface exploration, field and laboratory testing, and geotechnical engineering analysis to provide criteria for preparing the design of the building foundations, building floor slabs, and parking lot pavements along with site preparation recommendations and construction considerations for the proposed development. The evaluation of the environmental aspects of this site was beyond the scope of services for this geotechnical investigation.

3.0 SITE AND PROJECT DESCRIPTION

3.1 Site Conditions

The subject site is located at the northwest corner of Alessandro Boulevard and Glenhaven Avenue in Riverside, California. The site is bounded to the north by multi-family residences, to the east by Glenhaven Avenue, to the south by Alessandro Boulevard, and to the west by graded pads. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of a nearly rectangular-shaped parcel, 5.27± acres in size. The site is currently developed with two (2) buildings, eight (8) tennis courts, and a parking lot. The southern building is approximately 3,500± ft² in size and the eastern building is approximately 2,500± ft² in size. The buildings are single story structures of masonry block construction and are assumed to be supported on shallow foundations with a concrete slab-on-grade floor. We understand that the site was previously utilized as a tennis club. However, the site is not currently operational. An asphaltic concrete parking lot is located in the southern area of the site. The pavements are in poor condition with severe cracking throughout. The ground surface cover in the tennis court areas consist of concrete flatwork and the ground surface in the area west of the tennis courts consists of exposed soil with moderate native grass and weed growth. Turf grass and palm trees are located east of the tennis courts and eastern building.

Based on our review of readily available historic aerial photographs obtained from the internet, two (2) swimming pools were located in the central area of the site. However, the swimming pools have been previous backfilled. The existing facility and swimming pools were under construction at the time of an aerial photograph dated 1966. Based on our discussions with the client and the subsurface conditions encountered at the site, we understand that the site was formerly mined for granitic bedrock materials before it was developed as an athletic facility. The mining operations appear to have ceased and the resultant excavation was backfilled before 1948, the date of the earliest aerial photograph.

A descending slope is located on the west and south sides of the tennis courts. Based on a partial topographic site plan provided to our office by the client, the slope ranges from 1 foot in height in the northern portion of the slope to 10± feet in the southwestern portion of the slope and then 1 foot in the eastern portion of the slope. The inclination of the slope varies from 4h:1v in the northern portion of the site to 2.5h:1v in the southwestern and eastern portions of the slope. A slope also descends from the southern property line as well as a portion of the eastern property line to the existing parking lot. The slope ranges from 1 to 9± feet in height with an inclination of 2h:1v. A large ascending slope is located along the western property line. The slope height is as much as 75 feet with near vertical to 1h:1v inclinations. Based on our historical aerial photo review, it appears that the site was previously mined prior to the development of the tennis club. It is assumed that this slope created during the previous mining operation. Bedrock generally composed of granite, gneiss, and schist is exposed on the face of this slope.

Detailed topographic information for the site was not available at the time of this report. Based on information obtained from Google Earth, the topographic high of the site is located at 1167± feet mean sea level (msl) at the top of the western slope and a topographic low is located at 1078± feet msl in the parking area within the southern portion of the site.

3.2 Proposed Development

A site plan was prepared by the project architect, Visioneering Studios Architecture, for the proposed development and was provided to our office by the client. This plan indicates that a new church campus will be constructed at the subject site. A new worship building (identified as Building C), with a footprint of 8,150± ft², will be constructed in the central area of the site. Several new office and/or classroom buildings (identified as Buildings B-1, D and E) will be also constructed at the site. Building D will have a footprint of 3,600± ft² and will be located in the south-central area of the site. Building E will have a footprint of 1,500± ft² and Building B-1 will have a footprint of 2,700± ft². Both Buildings E and B-1 will be located in the northeastern area of the site. Two of the (2) existing structures will remain and will be refurbished. A new gazebo will be constructed in the western area of the site.

The remainder of the project site will be developed with Portland cement concrete or asphaltic concrete pavements for automobile parking and drive areas. Limited areas of new landscaping and concrete flatwork are also expected to be constructed throughout the site. A new retaining wall, about 5 feet in height will be constructed in the southwest area of the site. A new fill slope will be constructed in the west an south west portions of the site between the "upper and lower" parking areas. This new slope will slope downward toward the south (in the southwest portion of the site) and to the west (in the west parking are) with an inclination of 2h:1v. The maximum height of the slope will be about 5 feet.

Detailed information regarding the proposed structures is currently not available. It is assumed that the new buildings will be a single-story structure of wood frame or masonry block construction, typically supported on conventional shallow foundations with slab-on-grade floors. Maximum column and wall loads are assumed to be in the range of 30 kips and 1 to 2 kips per linear foot, respectively.

3.3 Previous Studies

Southern California Geotechnical, Inc. (SCG) previously conducted a preliminary, feasibility-level geotechnical investigation within the subject site. The previous report is identified as follows:

> Geotechnical Feasibility Study, Proposed Senior Housing, 5695 Glenhaven Avenue, Riverside, California, prepared by Southern California Geotechnical, Inc. (SCG) for Oakmont Senior Living, SCG Project No. 15G150-1, dated June 2, 2015.

SCG previously performed a geotechnical feasibility study at the subject site, referenced above. As part of this investigation, SCG drilled a total of six (6) borings to depths 7 to 35½± feet below the previously existing site grades. In addition, SCG excavated a total of three (3) trenches to depths of 13 to 17± feet below the previously existing site grades. SCG reported that artificial fill soils were encountered at the ground surface or beneath the pavements at four (4) of the boring locations and all of the trench locations. The fill soils generally consisted of loose to medium dense silty fine sands, silty fine to medium sands, fine sands, fine to medium sands, and fine to coarse sands, extending to depths of 2½ to 23± feet below the existing site grades. It should be noted that SCG encountered refusal conditions at two trench locations within the fill materials at depths of 17 and 13± feet, respectively. Therefore, the depth of the fill is greater than 17 and 13 feet at these locations. Bedrock was encountered beneath the artificial fill or at the ground surface at all of the boring locations and one of the trench locations extending to the maximum depth explored of 35½± feet. The bedrock consists of brown to gray brown, weathered, friable, medium to coarse grained granite.

SCG reported that groundwater was not encountered during the drilling of any of the borings or the excavation of any of the trenches. The static groundwater table was considered to have existed at a depth in excess of 35½± feet at the time of the subsurface exploration.

4.0 SUBSURFACE EXPLORATION

4.1 Scope of Exploration/Sampling Methods

The subsurface exploration conducted for this project consisted of seven (7) borings (identified as Boring Nos B-7 through B-13). This study also incorporated the results of the six (6) borings and three (3) exploratory trenches (Identified as Boring Nos. B-1 through B-6 and Trench Nos. T-1 through T-3, respectively) that were previously performed at the subject site during the previous geotechnical feasibility study. All of the borings were logged during drilling by a member of our staff.

With the exception of Boring Nos. B-12 and B-13, all of the borings were advanced with hollow-stem augers, by a conventional truck-mounted drilling rig. Representative bulk and relatively undisturbed soil samples were taken during drilling. Relatively undisturbed samples were taken with a split barrel "California Sampler" containing a series of one inch long, 2.416± inch diameter brass rings. This sampling method is described in ASTM Test Method D-3550. Samples were also taken using a 1.4± inch inside diameter split spoon sampler, in general accordance with ASTM D-1586. Both of these samplers are driven into the ground with successive blows of a 140-pound weight falling 30 inches. The blow counts obtained during driving are recorded for further analysis. Bulk samples were collected in plastic bags to retain their original moisture content. The relatively undisturbed ring samples were placed in molded plastic sleeves that were then sealed and transported to our laboratory.

Boring Nos. B-12 and B-13 were advanced by manual labor using hand augering equipment. These borings were performed within the interior of the two buildings that will remain with the proposed development. At both of these locations, a portable core drilling rig equipped with a diamond-tipped core drilling barrel was used to core through the existing Portland cement concrete floor slab. At these boring locations, the modified California sampler was driven with repetitive bows of a 35-pound donut style hammer. Relatively undisturbed ring samples were placed in molded plastic sleeves as described above and transported to our laboratory.

The approximate locations of the borings from our current study as well as one boring from our previous study are indicated on the Boring and Trench Location Plan, included as Plate 2 in Appendix A of this report. The Boring Logs, which illustrate the conditions encountered at the boring locations, as well as the results of some of the laboratory testing, are included in Appendix B. The Boring Logs and Trench Logs from the previous investigations (discussed in Section 3.3) are included in Appendix F of this report.

4.2 Geotechnical Conditions

Floor Slab

Boring Nos. B-12 and B-13 were drilled through existing Portland cement concrete floor slabs. At these boring locations, the floor slabs possess thicknesses of 3¼ and 3½± inches, respectively.

Pavements

At the time of the referenced feasibility study, three (3) of the borings were drilled through exterior Portland cement concrete pavements. At these boring locations, the pavements consist of 4± inches of concrete with no discernable layer of aggregate base. One (1) of the borings was drilled through asphaltic concrete pavements. At this boring location, the pavement consists of 3± inches of asphaltic concrete underlain by 2± inches of aggregate base.

Topsoil/Rootmat Materials

Topsoil was encountered at the ground surface at Boring No. B-5, which was drilled at the time of the previous study. At this boring location, the topsoil consists of silty fine to medium sands with abundant fine root fibers and extends to depths of ½ to 1± foot below the ground surface.

Artificial Fill

At the time of the current site exploration, artificial fill was encountered at the ground surface of all seven (7) boring locations, extending to depths of 1 to 22± feet below existing site grades. The artificial fill soils generally consisted of medium dense to very dense silty fine sands, medium dense to very dense silty fine to coarse sands, loose fine to coarse sands, and loose fine sandy silts. The fill soils also possessed occasional traces of clay, varying fine to coarse gravel content, and occasional to some cobbles. The artificial fill soils possess a disturbed appearance and artificial debris including asphalt and metallic fragments, resulting in their classification as artificial fill.

At the time of the referenced feasibility study, artificial fill soils were encountered at the ground surface or beneath the pavements at most of the boring locations and all of the trench locations. The fill soils generally consist of loose to medium dense silty fine sands, silty fine to medium sands, fine sands, fine to medium sands, and fine to coarse sands, extending to depths of 2½ to 23± feet below the existing site grades. The fill soils possess a disturbed appearance and contain an abundance of concrete, asphalt, rebar, wood, and brick debris and fragments, resulting in their classification as artificial fill. The debris and fragments ranged in size from less than 1 foot to 6± feet in length.

It should be noted that Trench Nos. T-2 and T-3 from the previous study encountered refusal conditions within the fill materials at depths of 17 and 13± feet, respectively. Therefore, the depth of the fill is greater than 17 and 13 feet at these locations. Boring Nos. B-12 and B-13, performed during the current geotechnical investigation, were also terminated in fill due to hand auger refusal conditions at depths of 3 and 10± feet, respectively.

Bedrock

Bedrock was encountered beneath the artificial fill, topsoil materials, or pavements at all of the boring locations and one of the trench locations with the exception of Boring Nos. B-12 and B-13 and Trench Nos. T-2 and T-3 which were terminated in artificial fill. Bedrock materials extend to at least the maximum depth explored of 35½± feet. The bedrock encountered at the boring and trench locations consists of brown to gray brown, weathered, friable, medium to coarse grained granite.

Groundwater

Groundwater was not encountered during the drilling of any of the borings or the excavation of any of the trenches. In addition, delayed readings taken within the open boreholes and trenches did not identify any free water. Based on the lack of any water within the borings and trenches, and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of 35± feet at the time of the subsurface exploration.

4.3 Geologic Conditions

Geologic research indicates that the site is underlain by artificial fill and Granite of the Riverside area of Cretaceous age (Map Symbol Krg). Intermixed Paleozoic schist and gneiss and Cretaceous granitic rocks (Map Symbol KgPz) are located within the outcrop of the western slope of the site. The primary available reference applicable to the subject site is Geologic Map of the Riverside East 7.5 Minute Quadrangle, Riverside County, California, by Douglas M. Morton and Brett F. Cox, 2001 (Plate 3).

Based on the materials encountered in the exploratory borings and trenches, it is our opinion that the majority of the site is underlain by artificial fill (Map Symbol Af) and granite (Map Symbol Krg). Based on surface mapping of the bedrock exposed on the western slope, the western slope consists of intermixed schist and gneiss (Map Symbol KgPz). Overall, the bedrock encountered in the exploratory borings and the bedrock encountered at the surface of the exposed western slope face is consistent with the mapped geologic conditions at the subject site.

5.0 LABORATORY TESTING

The soil samples recovered from the subsurface exploration were returned to our laboratory for further testing to determine selected physical and engineering properties of the soils. The tests are briefly discussed below. It should be noted that the test results are specific to the actual samples tested, and variations could be expected at other locations and depths.

Classification

All recovered soil samples were classified using the Unified Soil Classification System (USCS), in accordance with ASTM D-2488. The field identifications were then supplemented with additional visual classifications and/or by laboratory testing. The USCS classifications are shown on the Boring Logs and are periodically referenced throughout this report.

Dry Density and Moisture Content

The density has been determined for selected relatively undisturbed ring samples. These densities were determined in general accordance with the method presented in ASTM D-2937. The results are recorded as dry unit weight in pounds per cubic foot. The moisture contents are determined in accordance with ASTM D-2216, and are expressed as a percentage of the dry weight. These test results are presented on the Boring and Trench Logs.

Consolidation

Selected soil samples have been tested to determine their consolidation potential, in accordance with ASTM D-2435. The testing apparatus is designed to accept either natural or remolded samples in a one-inch high ring, approximately 2.416 inches in diameter. Each sample is then loaded incrementally in a geometric progression and the resulting deflection is recorded at selected time intervals. Porous stones are in contact with the top and bottom of the sample to permit the addition or release of pore water. The samples are typically inundated with water at an intermediate load to determine their potential for collapse or heave. The results of the consolidation testing are plotted on Plates C-1 through C-4 in Appendix C of this report. Consolidation testing was also performed as a part of the referenced feasibility study. The results of these tests are included in Appendix F of this report.

Soluble Sulfates

Representative samples of the near-surface soils were submitted to a subcontracted analytical laboratory for determination of soluble sulfate content. Soluble sulfates are naturally present in soils, and if the concentration is high enough, can result in degradation of concrete which comes into contact with these soils. The results of the soluble sulfate testing are presented below and are discussed further in a subsequent section of this report. Tests performed during the time of the referenced previous study are denoted with the job number for the previous investigation.

Sample Identification	Soluble Sulfates (%)	Severity	Class
B-1 @ 0 to 5 feet	0.013	Not Applicable	S0
B-3 @ 0 to 5 feet	0.002	Not Applicable	S0
B-12 @ 0 to 3 feet	0.038	Not Applicable	S0

Expansion Index

The expansion potential of the on-site soils was determined in general accordance with ASTM D-4829 as required by the California Building Code (CBC). The testing apparatus is designed to accept a 4-inch diameter, 1-in high, remolded sample. The sample is initially remolded to 50± 1 percent saturation and then loaded with a surcharge equivalent to 144 pounds per square foot. The sample is then inundated with water, and allowed to swell against the surcharge. The resultant swell or consolidation is recorded after a 24-hour period. The results of the EI testing are as follows:

Sample Identification	Expansion Index	Expansive Potential
B-1 @ 0 to 5 feet	0	Very Low
B-9 @ 0 to 5 feet	0	Very Low

Corrosivity Testing

Representative bulk samples of the near-surface soils were submitted to a subcontracted analytical laboratory for determination of electrical resistivity, pH, and chloride concentrations. The resistivity of the soils is a measure of their potential to attack buried metal improvements such as utility lines. The results of the resistivity and pH testing are presented below:

Sample Identification	Resistivity (ohm-cm)	pH	Chlorides (mg/kg)
B-12 @ 0 to 3 feet	2,080	8.6	64

Maximum Dry Density and Optimum Moisture Content

Representative bulk samples were tested for their maximum dry densities and optimum moisture contents. The results have been obtained using the Modified Proctor procedure, per ASTM D-1557. These tests are generally used to compare the in-situ densities of undisturbed field samples, and for later compaction testing. Additional testing of other soil type or soil mixes may be necessary at a later date. The results of the testing are plotted on Plate C-5 in Appendix C of this report. Additional testing was also performed as a part of the referenced feasibility study. The results of these tests are included in Appendix F of this report.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our review, field exploration, laboratory testing and geotechnical analysis, the proposed development is considered feasible from a geotechnical standpoint. The recommendations contained in this report should be taken into the design, construction, and grading considerations.

The recommendations are contingent upon all grading and foundation construction activities being monitored by the geotechnical engineer of record. The recommendations are provided with the assumption that an adequate program of client consultation, construction monitoring, and testing will be performed during the final design and construction phases to verify compliance with these recommendations. Maintaining Southern California Geotechnical, Inc., (SCG) as the geotechnical consultant from the beginning to the end of the project will provide continuity of services. The geotechnical engineering firm providing testing and observation services shall assume the responsibility of Geotechnical Engineer of Record.

The Grading Guide Specifications, included as Appendix D, should be considered part of this report, and should be incorporated into the project specifications. The contractor and/or owner of the development should bring to the attention of the geotechnical engineer any conditions that differ from those stated in this report, or which may be detrimental for the development.

6.1 Seismic Design Considerations

The subject site is located in an area which is subject to strong ground motions due to earthquakes. The performance of a site-specific seismic hazards analysis was beyond the scope of this investigation. However, numerous faults capable of producing significant ground motions are located near the subject site. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structures should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

Faulting and Seismicity

Research of available maps indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, SCG did not identify any evidence of faulting during the geotechnical investigation. Therefore, the possibility of significant fault rupture on the site is considered to be low.

The potential for other geologic hazards such as seismically induced settlement, lateral spreading, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is considered low.

Seismic Design Parameters

The 2019 California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. The seismic design parameters presented below are based on the soil profile and the proximity of known faults with respect to the subject site.

Based on standards in place at the time of this report, the proposed development is expected to be designed in accordance with the requirements of the 2019 edition of the California Building Code (CBC), which was adopted on January 1, 2020.

The 2019 CBC Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool, a web-based software application available at the website www.seismicmaps.org. This software application calculates seismic design parameters in accordance with several building code reference documents, including ASCE 7-16, upon which the 2019 CBC is based. The application utilizes a database of risk-targeted maximum considered earthquake (MCE_R) site accelerations at 0.01-degree intervals for each of the code documents. The tables below were created using data obtained from the application. The output generated from this program is included as Plate E-1 in Appendix E of this report. Based on this output, the following parameters may be utilized for the subject site:

2019 CBC SEISMIC DESIGN PARAMETERS

Parameter		Value
Mapped Spectral Acceleration at 0.2 sec Period	S_S	1.500
Mapped Spectral Acceleration at 1.0 sec Period	S_1	0.600
Site Class	---	C
Site Modified Spectral Acceleration at 0.2 sec Period	S_{MS}	1.800
Site Modified Spectral Acceleration at 1.0 sec Period	S_{M1}	0.840
Design Spectral Acceleration at 0.2 sec Period	S_{DS}	1.200
Design Spectral Acceleration at 1.0 sec Period	S_{D1}	0.560

Liquefaction

Liquefaction is the loss of the strength in generally cohesionless, saturated soils when the pore-water pressure induced in the soil by a seismic event becomes equal to or exceeds the overburden pressure. The primary factors which influence the potential for liquefaction include groundwater table elevation, soil type and grain size characteristics, relative density of the soil, initial confining pressure, and intensity and duration of ground shaking. The depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Liquefaction potential is greater in saturated, loose, poorly graded fine sands with a mean (d_{50}) grain size in the range of 0.075 to 0.2 mm (Seed and Idriss, 1971). Clayey (cohesive) soils or soils which possess clay particles (d<0.005mm) in excess of 20 percent (Seed and Idriss, 1982) are generally not considered to be susceptible to liquefaction, nor are those soils which are above the historic static groundwater table.

Research of the Riverside County GIS website indicates that the subject site is located within a mapped zone of moderate liquefaction susceptibility. However, the subsurface conditions encountered at the boring and test pit locations consist of artificial fill materials underlain by very dense bedrock. Also, no water was encountered within the depths explored by our borings and test pits. Based on these conditions, no design considerations related to liquefaction are considered warranted for this project.

6.2 Geotechnical Design Considerations

General

The subsurface conditions at the subject site generally consist of variable depths of artificial fill soils underlain by very dense weathered bedrock materials. Based on subsurface information obtained from our borings and test pits, the fill soils consist of silty fine sands, and fine to coarse sands, extending to depths of 1 to 23± feet below the existing site grades. The fill soils possess appreciable debris content including concrete and asphalt debris, wood chips and some traces of other highly organic matter. The results of consolidation and collapse testing indicate that the existing fill materials possess significant potential for both consolidation settlement and hydro-collapse when subjected to the load increases anticipated for the proposed structure. No documentation regarding the placement of these fill soils is known to exist, and based on the variable densities, debris content, and collapse potential, the existing fill materials are not considered suitable to support the foundation loads of the proposed structures. Therefore, remedial grading is considered warranted within the proposed building areas, in order to remove the unsuitable fill soils and replace these materials with compacted structural fill. Some minor remedial grading will also be necessary across geologic contacts due to the differing support conditions of newly placed compacted fill and the existing very dense bedrock.

The borings and test pits performed in the western and southern halves of the site generally encountered greater depths of artificial fill ranging in depths from 13 to 23± feet below the existing site grades. The depths of fill encountered at the boring locations in the northeast quadrant of the site ranged from 1 to 10± feet.

We understand that two of the existing buildings will remain with the proposed development at this site. We also understand that these buildings will be remodeled. From a geotechnical standpoint, all of the undocumented fill soils should be removed from any new foundation areas. However, we expect that it will not be practical nor economically feasible to excavate all of the existing fill from these existing building areas without demolishing the existing buildings. Therefore, we recommend that any new footings in these two existing building areas be designed for a reduced allowable soil bearing pressure. Using a reduced allowable bearing pressure will not mitigate the potentially compressible and collapsible artificial fill soils. Therefore, the potential for some settlement will remain in these existing building areas. The use of a reduced allowable soil bearing pressure will help to reduce the potential settlements, but due to the variability of the fill soils and the lack of documentation of their placement and compaction, it is not possible to determine what the potential settlement of these soils could be, even with the use of a reduced soil bearing pressure. The consequences of building new footings or slabs on the undocumented fill soils at this site may include cracked floor slabs and minor cracks in building walls due to the movement of new or existing foundations as well as future distress to other improvements that are supported on the new or existing foundations of these buildings.

Settlement

The recommended remedial grading will remove the existing fill soils from the new building areas as well as a portion of the variable strength compressible alluvium and replace these materials as compacted structural fill. The native soils that will remain in place below the recommended depth of overexcavation possess more favorable consolidation and collapse characteristics and will not be subject to significant load increases from the foundations of the new structures. Provided that the recommended remedial grading is completed, the post-construction settlements of the proposed structures are expected to be within tolerable limits.

Slope Stability

The existing slope in the western portion of the site possesses relatively steep inclinations with localized areas possessing an inclination steeper that 1h:1v. SCG geologists performed geologic mapping of the exposed bedrock at the ground surface. The bedrock exposed at the slope face consists of very dense granitic bedrock and intermixed metamorphosed bedrock including schist, gneiss and granitic rock with moderate jointing. The joints are predominately high-angle with joint spacing on the order of 5± or more feet.

Based on the high-angle jointing and the relatively high strength density of the bedrock this slope is considered to possess adequate stability. However, it should be noted that SCG geologists observed a few localized areas where loose, fractured rock was located on the slope surface. This highly fractured rock may be prone to surficial failures. Therefore, SCG recommends the scaling of all loose, fractured rock be performed on the slope face. We anticipate that this scaling will be performed using a track-mounted excavator. SCG also recommends that a representative of SCG be present during the scaling operations to verify adequate scaling. In addition, **SCG recommends a setback of all development, including but not limited to parking, drive lanes, buildings, trash enclosures, curb and gutters, be setback at least 10 feet from the toe of the slope.**

Cut/Fill Transitions

The proposed grading will create cut/fill transitions between the bedrock and the newly placed fill soils within the building areas. Any cut/fill transition conditions at or near foundation bearing grade raise a potential for additional differential settlement. This report contains recommendations for additional remedial grading to remove cut/fill transitions.

Soluble Sulfates

The results of the soluble sulfate testing, as discussed in Section 5.0 of this report, indicate soluble sulfate concentrations of up to 0.038 percent. These concentrations are considered to be negligible with respect to the American Concrete Institute (ACI) Publication 318-05 Building Code Requirements for Structural Concrete and Commentary, Section 4.3. Therefore, specialized concrete mix designs are not considered to be necessary, with regard to sulfate protection purposes. It is, however, recommended that additional soluble sulfate testing be conducted at the completion of rough grading to verify the soluble sulfate concentrations of the soils which are present at the proposed building pad grades.

Corrosion Potential

The results of the electrical resistivity and pH testing indicate that a sample of the on-site soils has a resistivity value of 2,080 ohm-cm, and a pH value of 8.6. These test results have been evaluated in accordance with guidelines published by the Ductile Iron Pipe Research Association (DIPRA). The DIPRA guidelines consist of a point system by which characteristics of the soils are used to quantify the corrosivity characteristics of the site. Resistivity and pH are two of the five factors that enter into the evaluation procedure. Redox potential, relative soil moisture content and sulfides are also included. Although sulfide testing was not part of the scope of services for this project, we have evaluated the corrosivity characteristics of the on-site soils using resistivity, pH and moisture content. **Based on these factors, and utilizing the DIPRA procedure, the on-site soils are considered to be corrosive to ductile iron pipe. Therefore, polyethylene protection is expected to be required for cast iron or ductile iron pipes.** It should be noted that SCG does not practice in the field of corrosion engineering, and therefore, the client may also wish to contact a corrosion engineer to provide a more thorough evaluation.

A chloride concentration of 64 mg/kg were detected in the sample submitted for corrosivity testing. In general, soils possessing chloride concentrations in excess of 500 parts per million (ppm) are considered to be corrosive to steel reinforcement within reinforced concrete. Based on the lack of any significant chlorides in the tested sample, the site is considered to have a C1 chloride exposure in accordance with the American Concrete Institute (ACI) Publication 318 Building Code Requirements for Structural Concrete and Commentary. Therefore, a specialized concrete mix design for reinforced concrete for protection against chloride exposure is not considered warranted.

Expansion

The near surface soils at this site generally consist of sand, silty sands, and sandy silts. Laboratory testing indicates that these materials have very low expansion potentials (EI = 0). Additionally, the near surface bedrock materials are composed of granite and do not possess appreciable plasticity. Based on these conditions, no design considerations related to expansive soils are considered warranted for this site. It is recommended that additional expansion index testing be conducted during subsequent geotechnical investigation and at the completion of rough grading to verify the expansion potential of the as-graded building pad.

Shrinkage/Subsidence

Based on the results of the laboratory testing, removal and recompaction of the undocumented fill soils is estimated to result in an average shrinkage of 10 to 16 percent. Minor bulking of excavated bedrock materials is expected to be on the order of 0 to 5 percent. It should be noted that the potential shrinkage estimate is based on dry density testing performed on small-diameter samples taken at the boring locations. If a more accurate and precise shrinkage estimate is desired, SCG can perform a shrinkage study involving several excavated test-pits where in-place densities are determined using in-situ testing methods instead of laboratory density testing on small-diameter samples. Please contact SCG for details and a cost estimate regarding a shrinkage study, if desired.

Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence in existing fill soils is estimated to be 0.10 to 0.15 feet. No significant subsidence is expected in areas where the existing fill soils are completely removed and granitic bedrock is exposed at the overexcavation subgrade, such as in building areas.

These estimates are based on previous experience and the subsurface conditions encountered at the boring locations. The actual amount of subsidence is expected to be variable and will be dependent on the type of machinery used, repetitions of use, and dynamic effects, all of which are difficult to assess precisely.

Foundation Plan Review

As discussed previously, detailed foundation plans were not available at the time of this report. It is therefore recommended that we be provided with copies of the plans, when they become available, for review with regard to the conclusions, recommendations, and assumptions contained within this report.

6.3 Site Grading Recommendations

The grading recommendations presented below are based on the subsurface conditions encountered at the boring locations and our understanding of the proposed development. We recommend that all grading activities be completed in accordance with the Grading Guide Specifications included as Appendix D of this report, unless superseded by site-specific recommendations presented below.

Site Stripping and Demolition

Initial site stripping should include removal of all surficial vegetation and the existing organic topsoil materials. Topsoil, possessing an abundance of fine root fibers, and appreciable organic matter was encountered at one of the boring locations and extended to a depth of 1± foot below the ground surface. The actual extent of site stripping should be determined in the field by the geotechnical engineer, based on the organic content and stability of the materials encountered.

Demolition of the existing tennis courts, asphaltic concrete pavements, and remnants of any subsurface improvements will be required in order to facilitate the proposed development at the subject site. Any remnants of the former swimming pools and any foundations, slabs, utilities, and/or any other subsurface improvements should be demolished. Debris resultant from demolition should be disposed of offsite. Alternatively, concrete and asphalt debris may be pulverized to a maximum 2-inch particle size, well mixed with the on-site soils, and incorporated into new structural fills or it may be crushed and made into CMB, if desired.

Treatment of Existing Soils: Building Pads

Remedial grading should be performed within the new building pad areas to remove all of the undocumented fill soils from within the proposed building areas. Based on the conditions encountered at the borings, these fill soils extend to depths of 1 to 23± feet below the existing site grades at most of the boring and trench locations. Within the locations of the proposed buildings, fill depths are generally greater in the southern and eastern areas ranging between 10 and 17± feet. Depths of existing fill are generally shallower in the central and northwest portion of area of the proposed buildings with depth ranging between 0 to 4½± feet.

Due to the differing support characteristics of the existing bedrock and new structural fill soils, it is also recommended that the existing bedrock materials within the proposed building areas be overexcavated to a depth of at least 5 feet below existing grade and to a depth of at least 5 feet below proposed pad grade. Within the foundation influence zones, the overexcavations should extend to depths of at least 5 feet below proposed foundation bearing grades.

The minimum lateral extent of the overexcavation should extend beyond the building perimeter and foundations to a distance equal to the depth of new fill to be placed below the foundations. If the proposed structures incorporate any exterior columns (such as for a canopy or overhang) the overexcavation should also encompass these areas.

The overexcavation areas should extend at least 5 feet beyond the building and foundation perimeters and to an extent equal to the depth of fill below the foundation. If the proposed structures incorporate any exterior columns (such as for a canopy or overhang) the overexcavation should also encompass these areas.

Following completion of the overexcavation, the exposed bedrock materials or subgrade soils within the building areas should be evaluated by the geotechnical engineer to verify their suitability to serve as the structural fill subgrade, as well as to support the foundation loads of the new structures. This evaluation should include proofrolling and probing to identify any soft, loose or otherwise unstable soils that must be removed. Some localized areas of deeper excavation may be required if additional fill materials or loose, porous, or low-density native soils are encountered at the base of the overexcavation.

After a suitable overexcavation subgrade has been achieved, the exposed bedrock materials or soils should be scarified to a depth of at least 12 inches, moisture treated to 0 to 4 percent above optimum moisture content, and compacted to at least 90 percent of the ASTM D-1557 maximum dry density. The previously excavated soils may then be replaced as compacted structural fill.

Treatment of Existing Soils: New Improvements in Existing Building Areas

It is not considered feasible to remove all of the existing undocumented fill soils from the existing buildings that will remain with the proposed development. If any new footings or floor slabs will be constructed in these areas, the existing fill soils at the new improvement subgrades should be scarified to a depth of at least 12 inches, moisture conditioned to 0 to 4 percent above optimum moisture content, and **recompacted to at least 95 percent of the ASTM D-1557 maximum dry density.** New footings should be designed for a reduced allowable bearing pressure, as discussed in Section 6.5 of this report.

Treatment of Existing Soils: Retaining Walls and Site Walls

The existing soils within the areas of proposed retaining wall and any non-retaining site walls should be overexcavated to a depth sufficient to remove the undocumented fill soils, and to a minimum of at least 3 feet below foundation bearing grade (whichever is greater) and replaced as compacted structural fill as discussed above for the proposed building pad. Any undocumented fill soils within any of these foundation areas should be removed in their entirety. The overexcavation areas should extend at least 5 feet beyond the foundation perimeters, and to an extent equal to the depth of fill below the new foundations. The overexcavation subgrade soils or bedrock materials should be evaluated by the geotechnical engineer prior to scarifying, moisture conditioning, and recompacting the upper 12 inches of exposed subgrade soils, as discussed for the building areas. The previously excavated soils may then be replaced as compacted structural fill.

If the full lateral extent of overexcavation is not achievable for the proposed walls, the foundations must be redesigned using a lower bearing pressure. The geotechnical engineer of record should be contacted for recommendations pertaining to this type of condition.

Treatment of Existing Soils: Parking Areas

Based on economic considerations, overexcavation of the existing soils in the new parking and drive areas is not considered warranted, with the exception of areas where lower strength, or unstable soils are identified by the geotechnical engineer during grading. Subgrade preparation in the new parking and drive areas should initially consist of removal of all soils disturbed during stripping and demolition operations.

The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. Any such materials should be removed to a level of firm and unyielding soil. The exposed subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned to 0 to 4 percent above optimum, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength surficial soils throughout the site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

The grading recommendations presented above for the proposed parking area assume that the owner and/or developer can tolerate minor amounts of settlement within the proposed parking areas. The grading recommendations presented above do not completely mitigate the extent of the existing fill soils in the parking areas. As such, settlement and associated pavement distress could occur. Typically, repair of such distressed areas involves significantly lower costs than completely mitigating these soils at the time of construction. If the owner cannot tolerate the risk of such settlements, the parking and drive areas should be overexcavated to a depth of 2 feet below proposed pavement subgrade elevation, with the removed soils replaced as compacted structural fill.

Treatment of Existing Soils: Flatwork Areas

Subgrade preparation in the new flatwork areas should initially consist of removal of all soils disturbed during stripping and demolition operations. The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. The subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned to 0 to 4 percent above the optimum moisture content, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.

Fill Placement

- Fill should be placed in thin (6± inches), near-horizontal lifts, moisture conditioned to 0 to 4 percent above the optimum moisture content, and compacted.
- On-site soils may be used for fill provided they are cleaned of any debris to the satisfaction of the geotechnical engineer.
- All grading and fill placement activities should be completed in accordance with the requirements of the 2019 CBC and the grading code of the city of Riverside.
- All fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Fill soils should be well mixed.
- Compaction tests should be performed periodically by the geotechnical engineer as random verification of compaction and moisture content. These tests are intended to aid the contractor. Since the tests are taken at discrete locations and depths, they may not be indicative of the entire fill and therefore should not relieve the contractor of his responsibility to meet the job specifications.

Imported Structural Fill

All imported structural fill should consist of very low expansive (EI < 20), well graded soils possessing at least 10 percent fines (that portion of the sample passing the No. 200 sieve). Additional specifications for structural fill are presented in the Grading Guide Specifications, included as Appendix D.

Utility Trench Backfill

In general, all utility trench backfill should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Compacted trench backfill should conform to the requirements of the local grading code, and more restrictive requirements may be indicated by the city of Riverside. All utility trench backfills should be witnessed by the geotechnical engineer. The trench backfill soils should be compaction tested where possible; probed and visually evaluated elsewhere.

Utility trenches which parallel a footing, and extending below a 1h:1v plane projected from the outside edge of the footing should be backfilled with structural fill soils, compacted to at least 90 percent of the ASTM D-1557 standard. Pea gravel backfill should not be used for these trenches.

6.4 Construction Considerations

Excavation Considerations

The near surface soils generally consist of silty sand and fine to medium sands. These materials will be subject to caving within shallow excavations. Where caving occurs within shallow excavations, flattened excavation slopes may be sufficient to provide excavation stability. On a preliminary basis, temporary excavation slopes should be made no steeper than 2h:1v. Deeper excavations may require some form of external stabilization such as shoring or bracing. Maintaining adequate moisture content within the near-surface soils will improve excavation stability. The near surface bedrock materials are very dense, but also highly weathered. On a preliminary basis, temporary slopes within the bedrock materials should be made no steeper than ½h:1v. All excavation activities on this site should be conducted in accordance with Cal-OSHA regulations.

As discussed in Section 4 of this report, dense to very dense bedrock conditions were encountered at most of the boring and trench locations. All of the hollow stem auger borings extended into the bedrock materials, penetrating the upper 6½ to 12± feet of the existing bedrock before encountering refusal conditions or voluntary termination of the boring. Based on the fact that refusal conditions were encountered at two of the boring locations, at depths of 7 and 9± feet below the existing site grades, it is expected that a large track mounted excavator and/or a large track mounted dozer equipped with a ripping shank will be required for excavation of very dense bedrock materials. Although it is not expected to be necessary, blasting or other specialized excavation techniques may be required in some limited areas of the site is deeper excavation into very dense bedrock materials is necessary.

Moisture Sensitive Subgrade Soils

Most of the artificial fill soils possess appreciable silt content and may become unstable if exposed to significant moisture infiltration or disturbance by construction traffic. In addition, based on their granular content, some of the on-site soils will also be susceptible to erosion. The site should, therefore, be graded to prevent ponding of surface water and to prevent water from running into excavations.

If the construction schedule dictates that site grading will occur during a period of wet weather, allowances should be made for costs and delays associated with drying the on-site soils or import of a drier, less moisture sensitive fill material.

Groundwater

Based on the conditions encountered in the borings and trenches, groundwater is not present within 35± feet of the ground surface. Based on the anticipated depth to groundwater, it is not expected that the groundwater will affect excavations for the foundations or utilities.

6.5 Foundation Design and Construction

Based on the preceding grading recommendations, it is assumed that the new building pads will be underlain by structural fill soils used to replace undocumented fill soils and a portion of the underlying potentially compressible alluvium. The new structural fill soils are expected to extend to a depth of at least 5 feet below foundation bearing grade. Based on this subsurface profile, the proposed structures may be supported on shallow foundation systems.

We understand the two existing buildings will remain with the proposed development at this site. Since it will not be practical or feasible to remove all of the existing undocumented fill soils from beneath any new footing or floor slab areas, a reduced allowable soil bearing pressure should be used in the design of any new foundation areas where the recommended remedial grading will not be completed. Please refer to the discussion in Section 6.2 under the *General* heading regarding the existing structures. The use of a reduced allowable soil bearing pressure in areas where the remedial grading cannot be performed will not completely mitigate potential settlement of the undocumented fill soils that will remain in these areas.

Building Foundation Design Parameters

New square and rectangular footings may be designed as follows:

- Maximum, net allowable soil bearing pressure: 3,000 lbs/ft^2. (A maximum allowable soil bearing pressure of 1,000 lbs/ft^2 should be used in existing building areas where it is not feasible to perform the recommended remedial grading).

- Minimum wall/column footing width: 14 inches/24 inches.

- Minimum longitudinal steel reinforcement within strip footings: Four (4) No. 5 rebars (2 top and 2 bottom).

- Minimum foundation embedment: 12 inches into suitable structural fill soils, and at least 18 inches below adjacent grade.

- It is recommended that the perimeter building foundations be continuous across all exterior doorways. Any flatwork adjacent to the exterior doors should be doweled into the perimeter foundations in a manner determined by the structural engineer.

The allowable bearing pressures presented above may be increased by 1/3 when considering short duration wind or seismic loads. The actual design of the foundations should be determined by the structural engineer.

Foundation Construction

The foundation subgrade soils should be evaluated at the time of overexcavation, as discussed in Section 6.3 of this report. It is further recommended that the foundation subgrade soils be evaluated by the geotechnical engineer immediately prior to steel or concrete placement. Within the new building areas, soils suitable for direct foundation support should consist of newly placed structural fill, compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Any unsuitable materials should be removed to a depth of suitable bearing compacted structural fill or competent native alluvial soils, with the resulting excavations backfilled with compacted fill soils. As an alternative, lean concrete slurry (500 to 1,500 psi) may be used to backfill such isolated overexcavations.

Within existing building areas, where new footings are designed for the reduced allowable bearing pressure recommended above, soils used for direct foundation support should consist of existing fill soils scarified to a depth of at least 12 inches, moisture conditioned, and **compacted to at least 95 percent of the ASTM D-1557 maximum dry density.**

The foundation subgrade soils should also be properly moisture conditioned to 0 to 4 percent of the Modified Proctor optimum, to a depth of at least 12 inches below bearing grade. Since it is typically not feasible to increase the moisture content of the floor slab and foundation subgrade soils once rough grading has been completed, care should be taken to maintain the moisture content of the building pad subgrade soils throughout the construction process.

Estimated Foundation Settlements

Post-construction total and differential settlements of shallow foundations designed and constructed in accordance with the previously presented recommendations are estimated to be less than 1.0 and 0.5 inches, respectively. Differential movements are expected to occur over a 30-foot span, thereby resulting in an angular distortion of less than 0.002 inches per inch.These estimated foundation settlements only apply to foundations constructed where the recommended remedial grading is performed.

Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and slabs and the passive earth pressure developed by footings below grade. The following friction and passive pressure may be used to resist lateral forces:

- Passive Earth Pressure: 300 lbs/ft^3
- Friction Coefficient: 0.30

These are allowable values, and include a factor of safety. When combining friction and passive resistance, the passive pressure component should be reduced by one-third. These values assume that footings will be poured directly against compacted structural fill. The maximum allowable passive pressure is 2,500 lbs/ft^2.

6.6 Floor Slab Design and Construction

Subgrades which will support new floor slabs should be prepared in accordance with the recommendations contained in the ***Site Grading Recommendations*** section of this report. Based on the anticipated grading which will occur at this site, the floors of the new structures may be constructed as conventional slabs-on-grade supported on newly placed structural fill, extending to a depth of at least 5 feet below finished pad grade. Based on geotechnical considerations, the floor slabs may be designed as follows:

- Minimum slab thickness: 4 inches.

- Minimum slab reinforcement: Not required for geotechnical conditions. The actual floor slab reinforcement should be determined by the structural engineer, based upon the imposed loading.

- Modulus of Subgrade Reaction: 150 psi/in

- Slab underlayment: Minimum slab underlayment should consist of a moisture vapor barrier constructed below the entire area of the proposed slab where any moisture sensitive floor coverings are expected. The moisture vapor barrier should meet or exceed the Class A rating as defined by ASTM E 1745-97 and have a permeance rating less than 0.01 perms as described in ASTM E 96-95 and ASTM E 154-88. A polyolefin material such as Stego® Wrap Vapor Barrier or equivalent will meet these specifications. The moisture vapor barrier should be properly constructed in accordance with all applicable manufacturer specifications. Given that a rock free subgrade is anticipated and that a capillary break is not required, sand below the barrier is not required. The need for sand and/or the amount of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview. Where moisture sensitive floor coverings are not anticipated, the vapor barrier may be eliminated.

- Moisture condition the floor slab subgrade soils to 0 to 4 percent above the Modified Proctor optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to concrete placement.

- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

- The floor slabs should be structurally connected to the foundations as detailed by the structural engineer.

The actual design of the floor slabs should be completed by the structural engineer to verify adequate thickness and reinforcement.

6.7 Retaining Wall Design and Construction

Although not indicated on the site plan, some small (less than 6 feet in height) retaining walls may be required to facilitate the new site grades and in loading docks. Retaining walls are also expected within the truck dock areas of the proposed building. The parameters recommended for use in the design of these walls are presented below.

Retaining Wall Design Parameters

Based on the soil conditions encountered at the boring locations, the following parameters may be used in the design of new retaining walls for this site. The following parameters assume that only the on-site soils will be utilized for retaining wall backfill. The on-site soils generally consist of silty sands, sandy silts and fine sands. The results of direct shear testing indicate that samples of the existing fill soils possess ultimate friction angles on the order of 30 degrees. Fill soils recompacted to 90 percent of the ASTM d-1557 maximum dry density are expected to possess friction angles of at least 30 degrees.

If desired, SCG could provide design parameters for an alternative select backfill material behind the retaining walls. The use of select backfill material could result in lower lateral earth pressures.

In order to use the design parameters for the imported select fill, this material must be placed within the entire active failure wedge. This wedge is defined as extending from the heel of the retaining wall upwards at an angle of approximately 60° from horizontal. If select backfill material behind the retaining wall is desired, SCG should be contacted for supplementary recommendations.

RETAINING WALL DESIGN PARAMETERS

Design Parameter		Soil Type: On Site Sands, Silty Sands, and Sandy Silts
Internal Friction Angle (ϕ)		30°
Unit Weight		125 lbs/ft^3
Equivalent Fluid Pressure:	Active Condition (level backfill)	42 lbs/ft^3
	Active Condition (2h:1v backfill)	67 lbs/ft^3
	At-Rest Condition (level backfill)	63 lbs/ft^3

The walls should be designed using a soil-footing coefficient of friction of 0.30 and an equivalent passive pressure of 300 lbs/ft^3. The structural engineer should incorporate appropriate factors of safety in the design of the retaining walls.

The active earth pressure may be used for the design of retaining walls that do not directly support structures or support soils that in turn support structures and which will be allowed to deflect. The at-rest earth pressure should be used for walls that will not be allowed to deflect such as those which will support foundation bearing soils, or which will support foundation loads directly.

Where the soils on the toe side of the retaining wall are not covered by a "hard" surface such as a structure or pavement, the upper 1 foot of soil should be neglected when calculating passive resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

Seismic Lateral Earth Pressures

In addition to the lateral earth pressures presented in the previous section, retaining walls which are more than 6 feet in height should be designed for a seismic lateral earth pressure, in accordance with the 2019 CBC. If any such walls are proposed, our office should be contacted for supplementary design recommendations.

Backfill Material

Retaining wall backfill soils should consist of imported select structural fill possessing an expansion index less than 20. All backfill material placed within 3 feet of the back-wall face should have a particle size no greater than 3 inches. The retaining wall backfill materials should be well graded.

It is recommended that a minimum 1-foot-thick layer of free-draining granular material (less than 5 percent passing the No. 200 sieve) be placed against the face of the retaining walls. This material should extend from the top of the retaining wall footing to within 1 foot of the ground surface on the back side of the retaining wall.

A prefabricated drainage composite such as the MiraDRAIN 6000XL (or approved equivalent), which is specifically designed for use behind retaining walls, should be properly installed along the backside of the retaining wall, extending from the top of the retaining wall footing to within 1 foot of the ground surface on the back side of the retaining wall. If the layer of free-draining material is not covered by an impermeable surface, such as a structure or pavement, a 12-inch thick layer of a low permeability soil should be placed over the backfill to reduce surface water migration to the underlying soils. The layer of free draining granular material should be separated from the backfill soils by a suitable geotextile, approved by the geotechnical engineer.

All retaining wall backfill should be placed and compacted under engineering-controlled conditions in the necessary layer thicknesses to ensure an in-place density between 90 and 93 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557). Care should be taken to avoid over-compaction of the soils behind the retaining walls, and the use of heavy compaction equipment should be avoided.

Subsurface Drainage

As previously indicated, the retaining wall design parameters are based upon drained backfill conditions. Consequently, some form of permanent drainage system will be necessary in conjunction with the appropriate backfill material. Subsurface drainage may consist of either:

- A weep hole drainage system typically consisting of a series of 4-inch diameter holes in the wall situated slightly above the ground surface elevation on the exposed side of the wall and at an approximate 8-foot on-center spacing. The weep holes should include a 2 cubic foot pocket of open graded gravel, surrounded by an approved geotextile fabric, at each weep hole location.

- A 4-inch diameter perforated pipe surrounded by 2 cubic feet of gravel per linear foot of drain placed behind the wall, above the retaining wall footing. The gravel layer should be wrapped in a suitable geotextile fabric to reduce the potential for migration of fines. The footing drain should be extended to daylight or tied into a storm drainage system.

Weep holes or a footing drain will not be required for building stem walls.

6.8 Pavement Design Parameters

Site preparation in the pavement area should be completed as previously recommended in the ***Site Grading Recommendations*** section of this report. The subsequent pavement recommendations assume proper drainage and construction monitoring, and are based on either PCA or CALTRANS design parameters for a twenty (20) year design period. However, these designs also assume a routine pavement maintenance program to obtain the anticipated 20-year pavement service life.

Pavement Subgrades

It is anticipated that the new pavements will be primarily supported on a layer of compacted structural fill, consisting of scarified, thoroughly moisture conditioned and recompacted existing soils. The near-surface soils generally consist of silty sands, sandy silts, and fine to medium sands. These soils are considered to possess fair to good pavement support characteristics with an estimated R-values ranging from 40 to 50. The subsequent pavement design is based upon an assumed R-value of 40. Any fill material imported to the site should have support characteristics equal to or greater than that of the on-site soils and be placed and compacted under engineering controlled conditions. It is recommended that R-value testing be performed after completion of rough grading. Depending upon the results of the R-value testing, it may be feasible to use thinner pavement sections in some areas of the site.

Asphaltic Concrete

Presented below are the recommended thicknesses for new flexible pavement structures consisting of asphaltic concrete over a granular base. The pavement designs are based on the traffic indices (TI's) indicated. The client and/or civil engineer should verify that these TI's are representative of the anticipated traffic volumes. If the client and/or civil engineer determine that the expected traffic volume will exceed the applicable traffic index, we should be contacted for supplementary recommendations. The design traffic indices equate to the following approximate daily traffic volumes over a 20 year design life, assuming six operational traffic days per week.

Traffic Index	**No. of Heavy Trucks per Day**
4.0	0
5.0	1
6.0	3

For the purpose of the traffic volumes indicated above, a truck is defined as a 5-axle tractor trailer unit with one 8-kip axle and two 32-kip tandem axles. All of the traffic indices allow for 1,000 automobiles per day.

ASPHALT PAVEMENTS (R = 40)			
Materials	**Thickness (inches)**		
	Parking Stalls (TI = 4.0)	Auto Drive Lanes (TI = 5.0)	Light Truck Traffic (TI = 6.0)
Asphalt Concrete	3	3	3½
Aggregate Base	3	4	6
Compacted Subgrade	12	12	12

The aggregate base course should be compacted to at least 95 percent of the ASTM D-1557 maximum dry density. The asphaltic concrete should be compacted to at least 95 percent of the Marshall maximum density, as determined by ASTM D-2726. The aggregate base course may consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB), which is a recycled gravel, asphalt and concrete material. The gradation, R-Value, Sand Equivalent, and Percentage Wear of the CAB or CMB should comply with appropriate specifications contained in the current edition of the "Greenbook" Standard Specifications for Public Works Construction.

Portland Cement Concrete

The preparation of the subgrade soils within concrete pavement areas should be performed as previously described for proposed asphalt pavement areas. The minimum recommended thicknesses for the Portland Cement Concrete pavement sections are as follows:

PORTLAND CEMENT CONCRETE PAVEMENTS (R = 40)	
Materials	**Thickness (inches)**
	Automobile and Light Truck Traffic (TI =5.0 & 6.0)
PCC	5
Compacted Subgrade (95% minimum compaction)	12

The concrete should have a 28-day compressive strength of at least 3,000 psi. The maximum joint spacing within all of the PCC pavements is recommended to be equal to or less than 30 times the pavement thickness. The actual joint spacing and reinforcing of the Portland cement concrete pavements should be determined by the structural engineer.

7.0 GENERAL COMMENTS

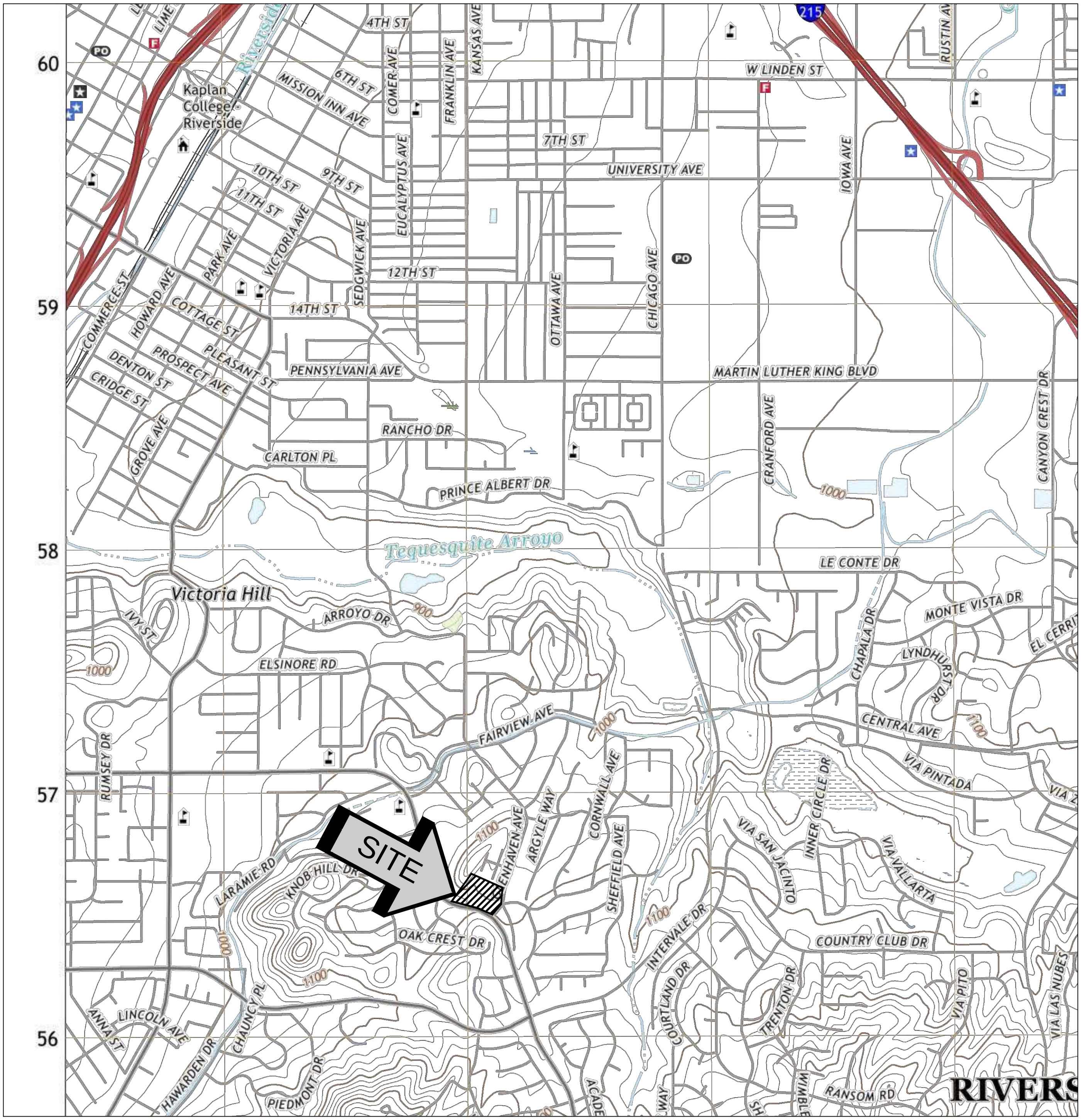
This report has been prepared as an instrument of service for use by the client, in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, civil engineer, and/or structural engineer. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The client(s)' reliance upon this report is subject to the Engineering Services Agreement, incorporated into our proposal for this project.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and sample depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

APPENDIX A



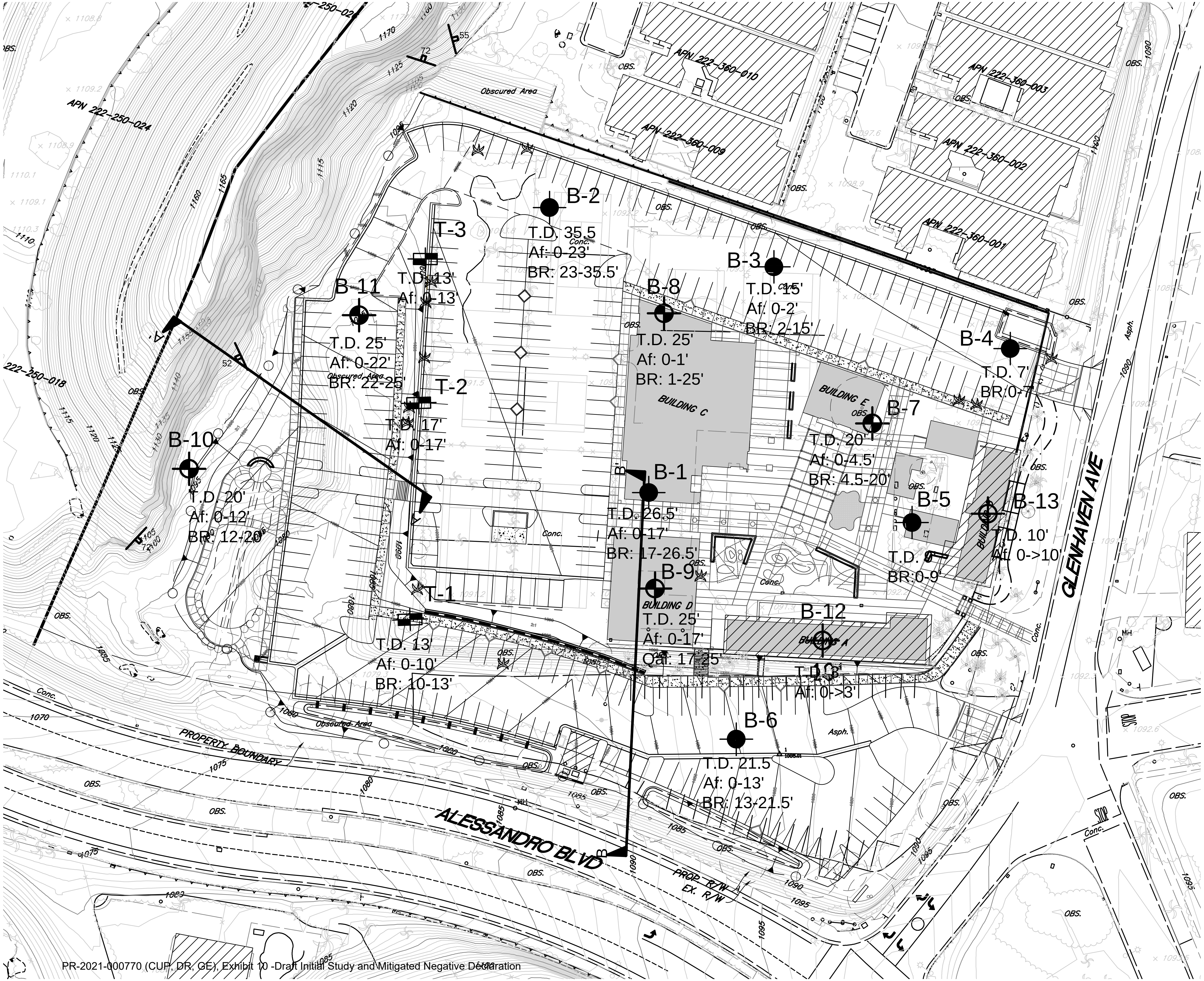
SOURCE: USGS TOPOGRAPHIC MAP OF THE RIVERSIDE EAST QUADRANGLE, RIVERSIDE, CALIFORNIA, 2018

SITE LOCATION MAP

PROPOSED ORANGECREST COMMUNITY CHURCH CAMPUS

RIVERSIDE, CALIFORNIA

SCALE: 1" = 2000'	SOUTHERN CALIFORNIA GEOTECHNICAL
DRAWN: RB CHKD: GKM	
SCG PROJECT 20G238-1	
PLATE 1	



GEOTECHNICAL LEGEND

- APPROXIMATE HOLLOW-STEM AUGER BORNG LOCATION
- APPROXIMATE HAND AUGER BORING LOCATION
- PREVIOUS BORING LOCATION (SCG PROJECT NO. 15G150-1)
- PREVIOUS TRENCH LOCATION (SCG PROJECT NO. 15G150-1)
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- STRIKE AND DIP OF JOINTS

NOTE: BASE MAP PREPARED BY VISIONEERING STUDIOS ARCHITECTURE

BORING AND TRENCH LOCATION PLAN

PROPOSED ORANGECREST COMMUNITY CHURCH CAMPUS

RIVERSIDE, CALIFORNIA

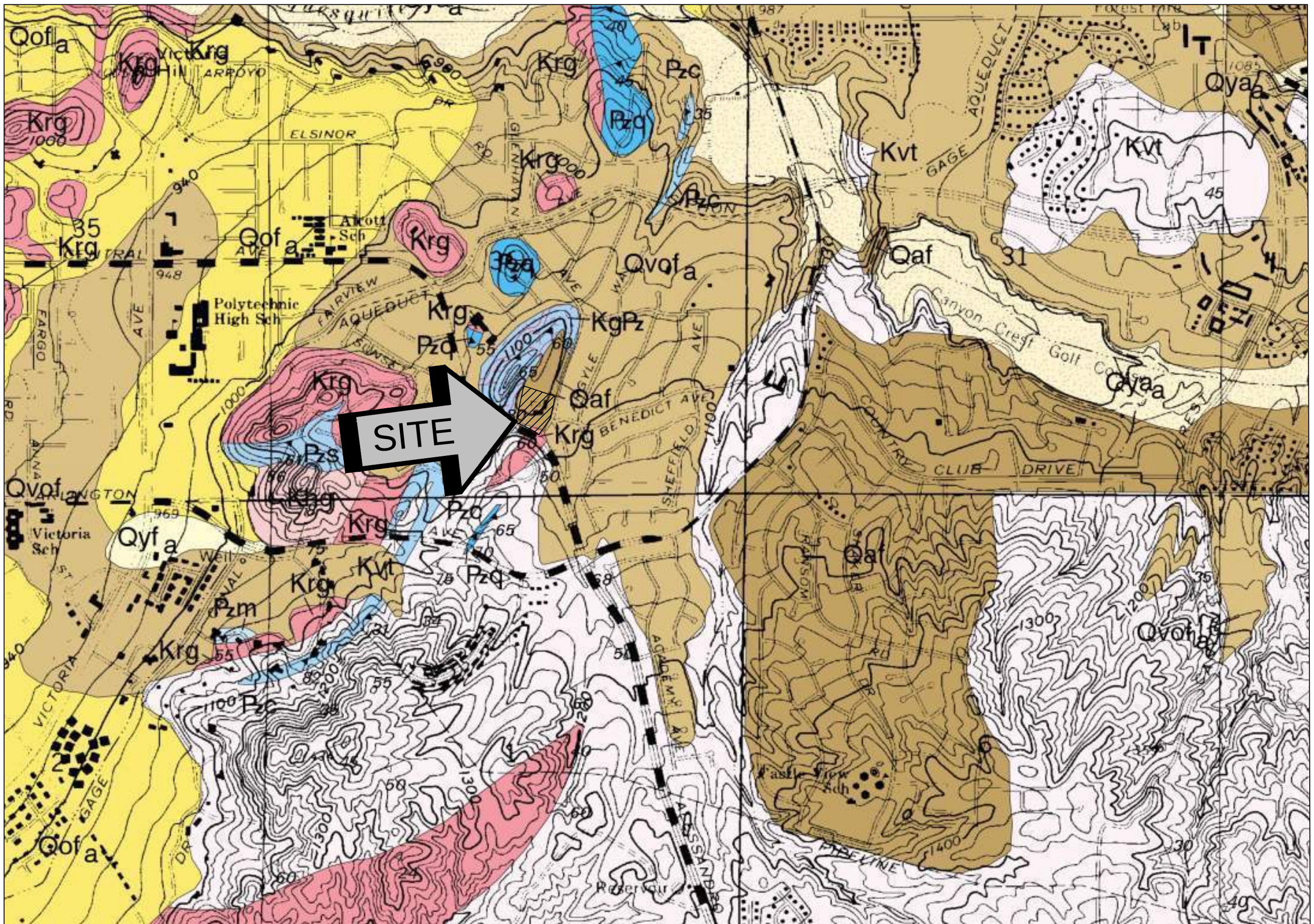
SCALE: 1" = 60'

DRAWN: DRK
CHKD: DWN

SCG PROJECT 20G238-1

PLATE 2

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL



DESCRIPTION OF MAP UNITS

Qaf

VERY YOUNG SURFICIAL DEPOSITS—Sediment recently transported and deposited in channels and washes, on surfaces of alluvial fans and alluvial plains, and on hillslopes. Soil-profile development is non-existant. Includes:

Artificial fill (late Holocene)—Deposits of fill resulting from human construction or mining activities; restricted to large area of regrading related to residential development in west central part of quadrangle and several smaller areas nearby

YOUNG SURFICIAL DEPOSITS—Sedimentary units that are slightly consolidated to cemented and slightly to moderately dissected. Alluvial fan deposits (Qyf series) typically have high coarse:fine clast ratios. Younger surficial units have upper surfaces that are capped by slight to moderately developed pedogenic-soil profiles (A/C to A/AC/$B_{cambric}C_{ox}$ profiles). Includes:

Qyf

Young alluvial fan deposits (Holocene and late Pleistocene)—Gray-hued sand and cobble- and gravel-sand deposits derived chiefly from rocks of Peninsular Ranges batholith. Found in restricted drainages along west edge of quadrangle, but contiguous with much more extensively developed deposits west of quadrangle

Qya

Young axial channel deposits (Holocene and late Pleistocene)—Gray, unconsolidated alluvium consisting of medium- to fine-grained sand and lesser silt flooring several low relief valleys and their tributaries in northwestern and northeastern part of quadrangle. Includes sediments in Tequesquite Arroyo and Pigeon Pass Valley

OLD SURFICIAL DEPOSITS—Sedimentary units that are moderately consolidated and slightly to moderately dissected. Older surficial deposits have upper surfaces that are capped by moderately to well-developed pedogenic soils (A/AB/B/C_{ox} profiles and Bt horizons as much as 1 to 2 m thick and maximum hues in the range of 10YR 5/4 and 6/4 through 7.5YR 6/4 to 4/4 and mature Bt horizons reaching 5YR 5/6). Includes:

Qof

Old alluvial fan deposits (late to middle Pleistocene)—Indurated, sandy alluvial fan deposits developed extensively in western part of quadrangle. Most of unit is slightly to moderately dissected and reddish-brown. Some Qof includes thin, discontinuous surface layer of Holocene alluvial fan material

VERY OLD SURFICIAL DEPOSITS—Sediments that are slightly to well consolidated to indurated, and moderately to well dissected. Upper surfaces are capped by moderate to well developed pedogenic soils (A/AB/B/C_{ox} profiles having Bt horizons as much as 2 to 3 m thick and maximum hues in the range 7.5YR 6/4 and 4/4 to 2.5YR 5/6)

Qvof

Very old alluvial fan deposits (early Pleistocene)—Mostly well-dissected, well-indurated, reddish-brown sand deposits. Commonly contains duripans and locally silcretes. Forms large area in southeastern part of quadrangle in area of March Air Force Base, and numerous smaller areas in northern part of quadrangle. Derived chiefly from rocks of southern California batholith

QTs

Unnamed late Cenozoic sedimentary rocks in Riverside and Corona areas (early Pleistocene to late Pliocene?)—Lithologically diverse, moderately indurated, gray to brown, coarse-grained sandstone, pebbly sandstone, and conglomerate. Restricted to two small areas near southeast end of Box Springs Canyon. In the Riverside West 7.5' quadrangle, most clasts in unit were derived from San Bernardino Mountains. In Riverside East 7.5' quadrangle, appears to be derived from units found in Santa Ana River drainage. Southeast of Riverside, clasts are locally derived from Peninsular Ranges sources

Box Springs plutonic complex (Cretaceous)—Box Springs plutonic complex is an elliptical, horizontally-floored basin-shaped granitic complex centered on Box Springs Mountains; apparently lower part of granitic diapir. Layering and foliation in granitic rocks is primary. Complex consists of essentially massive to indistinctly primary layered biotite tonalite in core, surrounded by layer of foliated biotite granodiorite to tonalite. Further outward in complex is discontinuous layer of foliated, heterogeneous, porphyritic granodiorite, succeeded by uniform porphyritc granodiorite. Other compositionally and texturally diverse granitic rocks also occur within complex, but in relatively small amounts. All rocks of complex were included in Perris quartz diorite by Dudley (1935) and in Bonsall tonalite by Larsen (1948). Except for dike rocks, units are described in general order from core outward. Includes:

Kbg

Porphyritic granodiorite—Coarse-grained, light gray, foliated, porphyritic biotite granodiorite and subordinate tonalite. In most places grades into heterogeneous porphyritic granodiorite unit (Kbhg). Groundmass is plagioclase, quartz (30 to 40 percent), and mafic minerals (5 to 10 percent). Mafic minerals are biotite and sparse hornblende, which are more evenly distributed than in heterogeneous granodiorite (Kbhg). Subhedral potassium feldspar phenocrysts are up to 2.5 cm in length. Discoidal mesocratic inclusions are oriented parallel to foliation

Kbft

Biotite-hornblende tonalite—Light to medium gray, medium- to coarse-grained, foliated tonalite. Forms discontinuous, pod-shaped masses surrounding, but not in contact with, biotite tonalite (Kbt). Contains 20 to 25 percent quartz and about 25 percent biotite and hornblende in subequal amounts. Hornblende and biotite occur as ragged crystals. Potassium feldspar present, but very sparse. Anhedral, interstitial sphene is conspicuous accessory mineral. Contains abundant, fine-grained, mesocratic, ellipsoidal- to discoidal-shaped mafic inclusions aligned parallel to foliation

Kbht

Heterogeneous biotite tonalite—Light-gray, inequigranular, medium- to coarse-grained, foliated biotite tonalite; restricted to northwestern Box Springs Mountains. Leucocratic, containing 1 to 4 percent biotite, which occurs as thin, subhedral plates, irregularly concentrated and aligned to produce wispy, swirled foliation. Leucocratic tonalite encloses pods and lenses of tonalite containing about 15 percent bioti as large ragged plates. Both types of tonalite contain abundant quar (30 to 40 percent) and very sparse potassium feldspar (1 percent less). Contains dispersed, mesocratic, discoidal inclusions. Granit pegmatite dikes are abundant

Kbgt

Heterogeneous granodiorite and tonalite—Light- to medium-gra medium- to coarse-grained, texturally heterogeneous, foliate hornblende-biotite tonalite and granodiorite; restricted to northern Bo Springs Mountains near Pigeon Pass. Common discoidal, mesocrat inclusions oriented parallel to foliation

Kba

Amphibolitic gabbro—Dark-gray to black, fine- to medium-graine foliated, hornblende-rich amphibolitic gabbro forming lenses an elongate masses within biotite granodiorite and tonalite (Kbfg Foliation is parallel to foliation in that unit

Val Verde pluton (Cretaceous)—Relatively uniform pluton composed biotite-hornblende tonalite. Termed Perris quartz diorite by Dudle (1935), Val Verde tonalite by Osborn (1939), and included withi Bonsall tonalite by Larsen (1948). Name Val Verde adopted by Morto (1999) based on detailed study of Osborn (1939) near Val Verde, former settlement and railway siding midway between Perris an Riverside. Apparently steep-walled Val Verde pluton is eroded to mi pluton level. Emplacement age of the pluton is 105.7 Ma_{id}. $^{40}Ar/^{39}A$ age of hornblende is 100 Ma, biotite 95 Ma and potassium feldsp 88.5 Ma. Includes:

Kvt

Val Verde tonalite—Gray-weathering, relatively homogeneous, massive to well-foliated, medium- to coarse-grained, hypautomorphic-granula biotite-hornblende tonalite; principal rock type of Val Verde pluto Contains subequal biotite and hornblende, quartz and plagioclas Potassium feldspar generally less than two percent of rock. Whe present, foliation typically strikes northwest and dips moderately steeply northeast. Northern part of pluton contains younge intermittently developed, northeast-striking foliation. In central part pluton, tonalite is mostly massive, and contains few segregation masses of mesocratic to melanocratic tonalite. Elliptical- to pancak shaped, meso-to melanocratic inclusions are common.

Krg

Granite of the Riverside area (Cretaceous)—Medium- to coarse-graine massive- to faintly-foliated, leucocratic biotite granite. Contains abo 1 to 3 percent biotite. Inclusions are sparse or absent except locally western part of body, west of quadrangle, where rock contains 2 to percent biotite and sparse to abundant inclusions of quartz diorit granodiorite, and fine-grained mafic rock. At Mount Rubidoux, west quadrangle, rocks contain sparse hypersthene and fayalitic olivine an moderately abundant equant inclusions of dark-gray fine-grained rock

Generic Cretaceous granitic rocks of the Peninsular Ranges batholith

KgPz

Intermixed Paleozoic(?) schist and gneiss and Cretaceous granitic rocks (Cretaceous and Paleozoic?)—Intermixed Paleozoic(?) schist and gneiss and Cretaceous granitic rocks, mostly tonalite and granodiorite. Forms elongate mass within Val Verde tonalite (Kvt) west of Sycamore Canyon and small mass south of Tequesquite Arroyo

Pzs

Biotite Schist (Paleozoic?)—Medium-to dark-gray, fine-grained biotite schist and biotite-quartz-feldspar schist. Locally contains sillimanite and cordierite. Commonly includes minor amounts of quartzite and calc-silicate hornfels. Limited exposures in hills south of Tequesquite Arroyo, and as pendants in Val Verde tonalite

Pzq

Impure quartzite (Paleozoic?)—Quartzite; impure, light-gray to light-greenish-gray, fine-to medium-grained, layered to massive. Limited exposures in hills south of Tequesquite Arroyo

Pzm

Marble (Paleozoic?)—Marble; white to light-gray, locally bluish-gray and blue, coarse to extremely coarse grained

Pzc

Calc-silicate rocks (Paleozoic?)—Heterogeneous, massive to well-layered calc-silicate rocks

Pzms

Marble and schist, undifferentiated (Paleozoic?)—Intermixed marble, calc-silicate rock, and biotite schist. Mapped on North Hill in northwestern part of quadrangle

Strike and dip of igneous foliation

70 **Inclined**

Vertical

Strike and dip of metamorphic foliation

70 **Inclined**

Vertical

Strike and dip of joints in igneous rocks

70 **Inclined**

Vertical

Bearing and plunge of linear features

70 **Inclined**

SOURCE: "GEOLOGIC MAP OF THE RIVERSIDE EAST 7.5' QUADRANGLE, RIVERSIDE COUNTY, CALIFORNIA" MORTON AND COX 2001

GEOLOGIC MAP

PROPOSED ORANGECREST COMMUNITY CHURCH CAMPUS

RIVERSIDE, CALIFORNIA

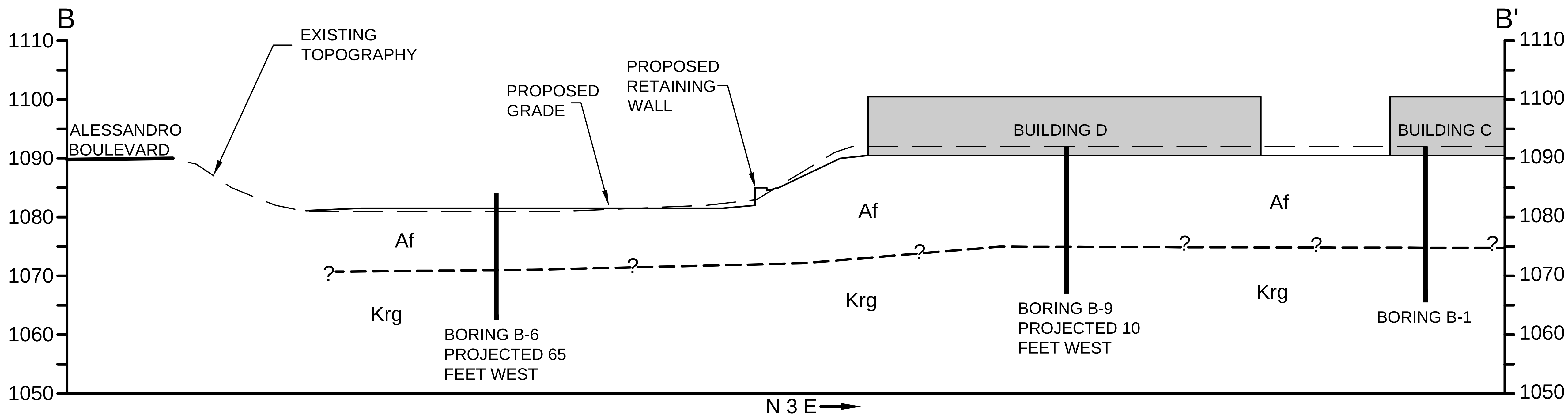
SCALE: 1" = 2000'

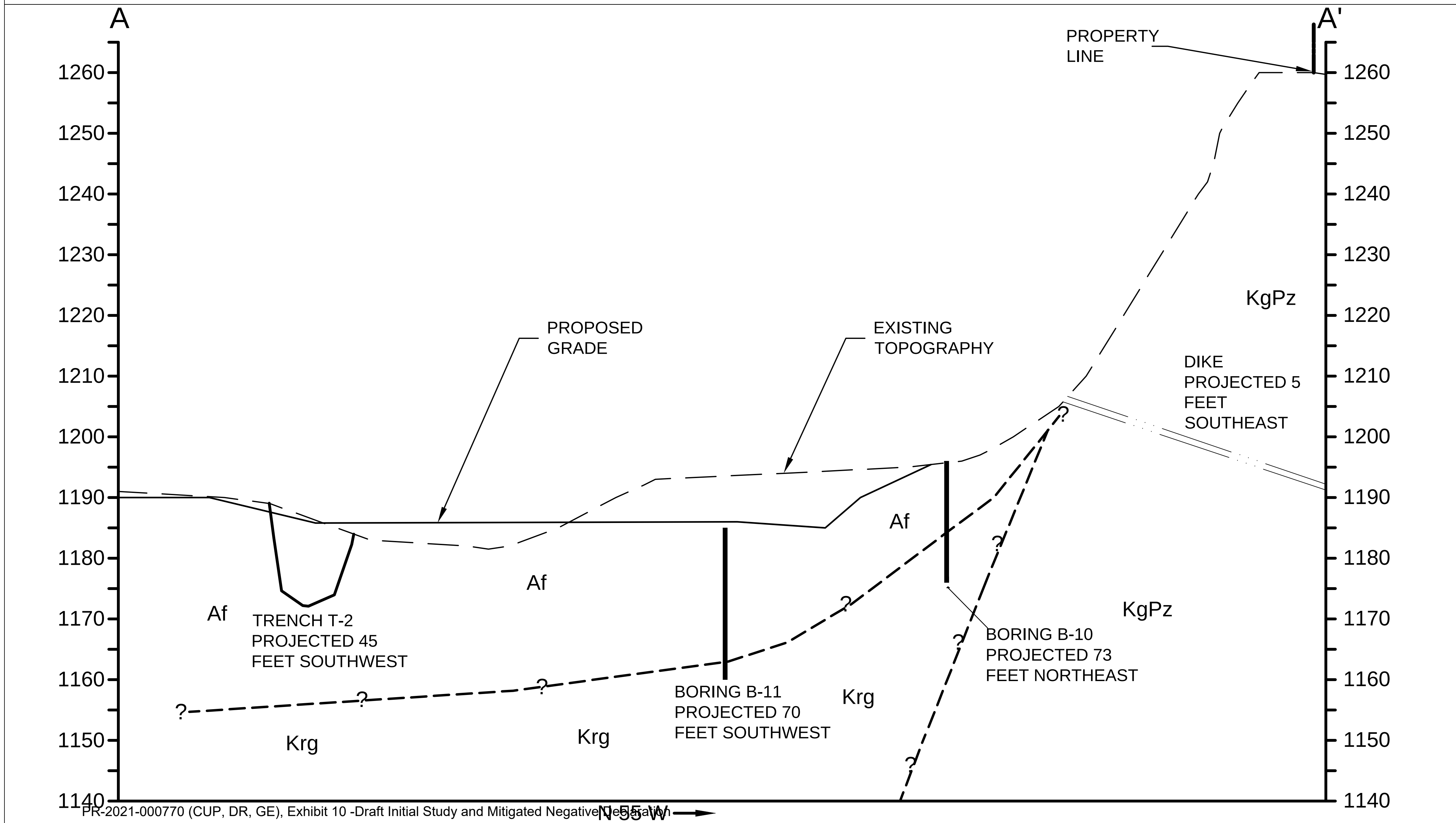
DRAWN: DRK
CHKD: RGT

SCG PROJECT
20G238-1

PLATE 3

SOUTHERN CALIFORNIA GEOTECHNICAL





GEOTECHNICAL LEGEND:

- DIKE
- FOLIATION
- CONTACT - DASHED WHERE CONCEALED
- EXISTING TOPOGRAPHY
- PROPOSED GRADE

GEOLOGIC UNITS:

Krg	GRANITE OF THE RIVERSIDE AREA
KgPz	INTERMIXED SCHIST, GENISS, AND GRANITIC ROCKS
Af	ARTIFICIAL FILL

CROSS-SECTIONS A-A' AND B-B'

PROPOSED ORANGECREST COMMUNITY CHURCH CAMPUS

RIVERSIDE, CALIFORNIA

SCALE: 1" = 20'

DRAWN: DRK
CHKD: DWN

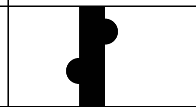
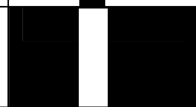
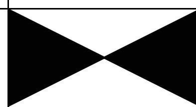
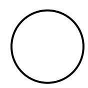
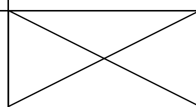
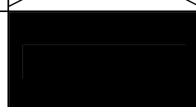
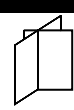
SCG PROJECT 20G238-1

PLATE 4

SOUTHERN CALIFORNIA GEOTECHNICAL

APPENDIX B

BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

BORING NO. B-7

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

JOB NO.: 20G238-1
PROJECT: Proposed Orangecrest Church
LOCATION: Riverside, California

DRILLING DATE: 12/7/20
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ryan Bremer

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FILL: Brown Silty fine to coarse Sand, trace fine root fibers, trace fine Gravel, trace to little Iron Oxide staining, occasional Cobbles, medium dense-dry to damp							
	X	32				102	3					
	X	26			@ 2.5', some fine to coarse Gravel	112	2					
					BEDROCK: Light Gray Brown medium to coarse grained Granite, weathered, friable, very dense-dry							
5	X	50/2"										No Sample Recovery
	X	50/1"				116	1					
	X	50/0.5"				125	1					
10												
	X	50/1"					1					
15												
	X	50/2"					2					
20												

Boring Terminated at 20'

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

TEST BORING LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-8

JOB NO.: 20G238-1	DRILLING DATE: 12/7/20	WATER DEPTH: Dry
PROJECT: Proposed Orangecrest Church	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 19½
LOCATION: Riverside, California	LOGGED BY: Ryan Bremer	READING TAKEN: At Completion

DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FILL: Light Orange Brown Silty fine Sand, little medium to coarse Sand, trace Clay, very dense-dry							
		50/3"			BEDROCK: Gray fine to coarse grained Granite, phaneritic, friable, slightly weathered, very dense-dry to damp		1					
		50/3"					1					
5		50/1"					4					
		50/4"					3					
10		50/2"					3					
		50/4"					2					
15												
		50/2"					2					
20												
		50/5"					2					
25					Boring Terminated at 25'							

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

TEST BORING LOG

PLATE B-2

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-9

JOB NO.: 20G238-1
PROJECT: Proposed Orangecrest Church
LOCATION: Riverside, California

DRILLING DATE: 12/7/20
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ryan Bremer

WATER DEPTH: Dry
CAVE DEPTH: 9 feet
READING TAKEN: At Completion

SURFACE ELEVATION: --- MSL

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FILL: Orange Brown Silty fine Sand, little medium to coarse Sand, trace metal fragments, some Iron Oxide staining, trace fine Gravel, medium dense to very dense-damp							
	X	26					5					EI = 0 @ 0 to 5 feet Disturbed Sample
	X	50/3"										No Sample Recovery
5	X	21			@ 5', little Clay, trace medium to coarse Sand	103	6					
	X	50/5"			@ 7', trace Clay	107	6					
10	X	33			@ 9', trace Calcareous veining	108	5					
15	X	73			@ 14', trace Calcareous veining, trace Clay, little medium to coarse Sand	114	5					
					BEDROCK: Light Gray Brown medium to coarse grained Granite, highly weathered, friable, very dense-dry							
20	X	18					2					
25	X	35					5					

Boring Terminated at 25'

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

TEST BORING LOG

PLATE B-3

BORING NO. B-10

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

JOB NO.: 20G238-1
PROJECT: Proposed Orangecrest Church
LOCATION: Riverside, California

DRILLING DATE: 12/7/20
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ryan Bremer

WATER DEPTH: Dry
CAVE DEPTH: 16.5 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
	X	17			FILL: Brown Silty fine Sand, little medium to coarse Sand, little Iron Oxide staining, trace fine root fibers, trace fine Gravel, medium dense-dry to damp	115	3					
	X	13			FILL: Red Brown Silty fine to coarse Sand, some Iron Oxide staining, loose-damp	106	6					
5	X	8			FILL: Dark Gray fine to coarse Sand, trace Silt, little Calcareous nodules, loose-damp @ 5', trace Clay	105	4					
	X	7			FILL: Red Brown Silty fine to coarse Sand, trace to little Clay, trace fine to coarse Gravel, loose-damp to moist	109	7					
10	X	14			FILL: Dark Red fine Sandy Silt, medium dense-damp to moist	114	9					
15	X	36			BEDROCK: Dark Gray medium to coarse grained Granite, phaneritic, friable, weathered, medium dense to very dense-dry	136	1					
20	X	50/5"				115	2					

Boring Terminated at 20'

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

TEST BORING LOG **PLATE B-4**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-11

JOB NO.: 20G238-1
PROJECT: Proposed Orangecrest Church
LOCATION: Riverside, California

DRILLING DATE: 12/7/20
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Ryan Bremer

WATER DEPTH: Dry
CAVE DEPTH: 18.3 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FILL: Brown Silty fine Sand, little to some medium to coarse Sand, some AC fragments, medium dense-dry to damp							
	X	37				121	2					
	X	34			@ 3', little Clay, trace AC fragments	108	4					
5					FILL: Brown Silty fine to coarse Sand, trace fine Gravel, little Calcareous nodules, medium dense-dry to damp							
	X	36				126	1					
	X	39			@ 7', Brown to Dark Brown	130	4					
10	X	17			@ 9', trace to little Clay, trace plastic fragments, little Iron Oxide staining	117	5					
15	X	31			@ 14', trace Clay, trace fine Gravel	102	5					
20	X	16			@ 19', occasional Cobbles, damp to moist	111	7					
					BEDROCK: Brown Gray medium to coarse grained Granite, medium dense-damp							
25	X	29				86	4					
					Boring Terminated at 25'							

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

TEST BORING LOG

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-12

JOB NO.: 20G238-1
PROJECT: Proposed Orangecrest Church
LOCATION: Riverside, California

DRILLING DATE: 12/8/20
DRILLING METHOD: Hand Auger
LOGGED BY: Ryan Bremer

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FLOOR SLAB: 3¼± Inches Portland Cement with no discernible Aggregate Base							
	X				FILL: Light Brown Silty fine Sand, trace medium to coarse Sand, little Calcareous nodules, trace porosity, dense to very dense-damp	103	6					
					@ 1.5', little fine to coarse Gravel, occasional Cobbles							
					Boring Terminated at 3' due to Cobbles							

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

BORING NO. B-13

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

JOB NO.: 20G238-1
PROJECT: Proposed Orangecrest Church
LOCATION: Riverside, California

DRILLING DATE: 12/8/20
DRILLING METHOD: Hand Auger
LOGGED BY: Ryan Bremer

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FLOOR SLAB: 3½± Inches Portland Cement with no discernible Aggregate Base							
	X				FILL: Red Brown Silty fine Sand, trace medium to coarse Sand, little to some porosity, trace fine root fibers, medium dense-damp	86	4					
	X				@ 3', trace Calcareous veining, medium dense-damp	89	6					
5	X				@ 5', trace porosity, dense-damp	106	6					
	X				@ 7', trace Clay, little porosity, dense-damp	115	5					
	X				FILL: Brown Silty fine to coarse Sand, very dense-damp	105	4					
10												

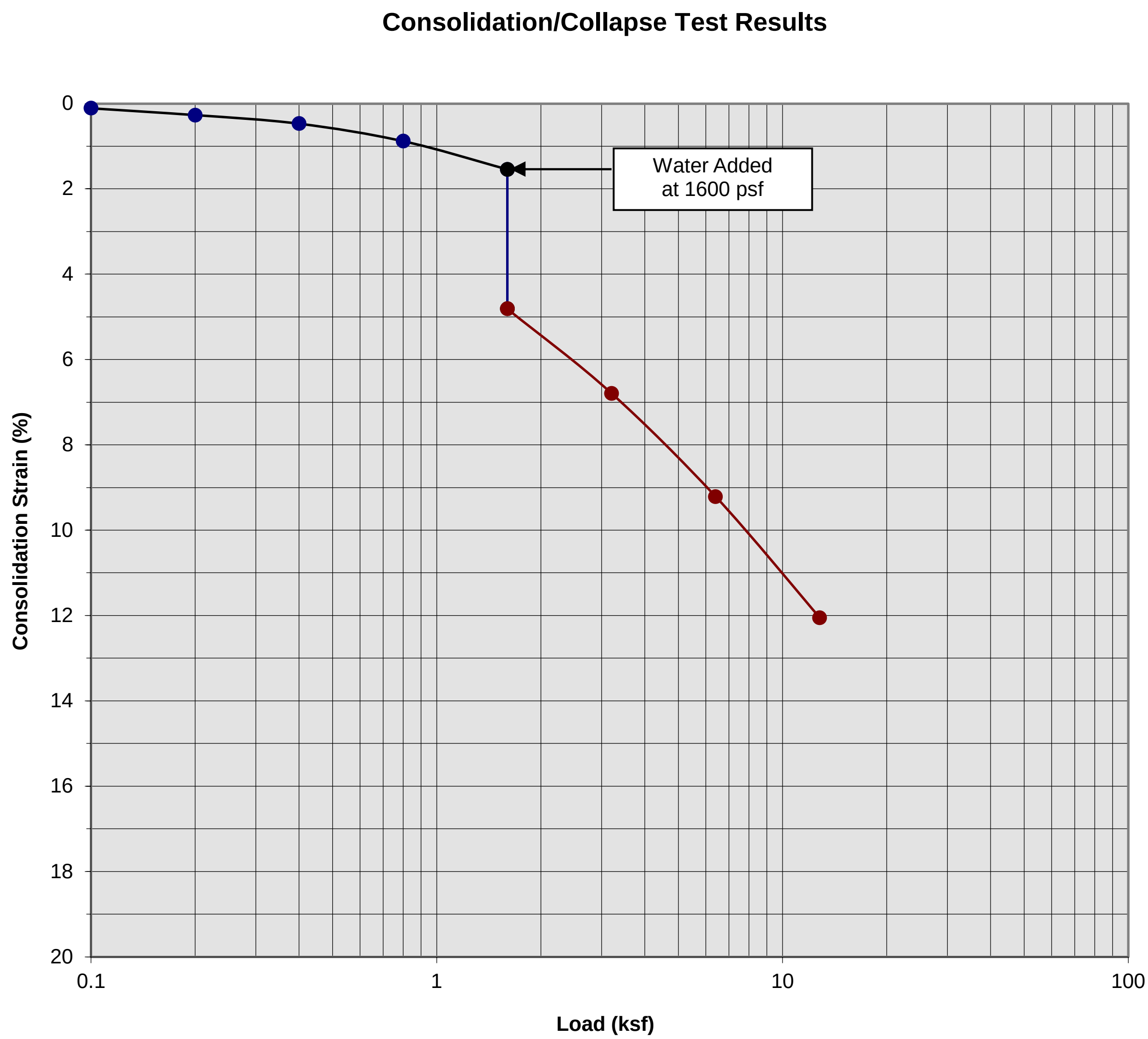
Boring Terminated at 10'

TBL 20G238-1.GPJ SOCALGEO.GDT 1/13/21

TEST BORING LOG

PLATE B-7

APPENDIX C

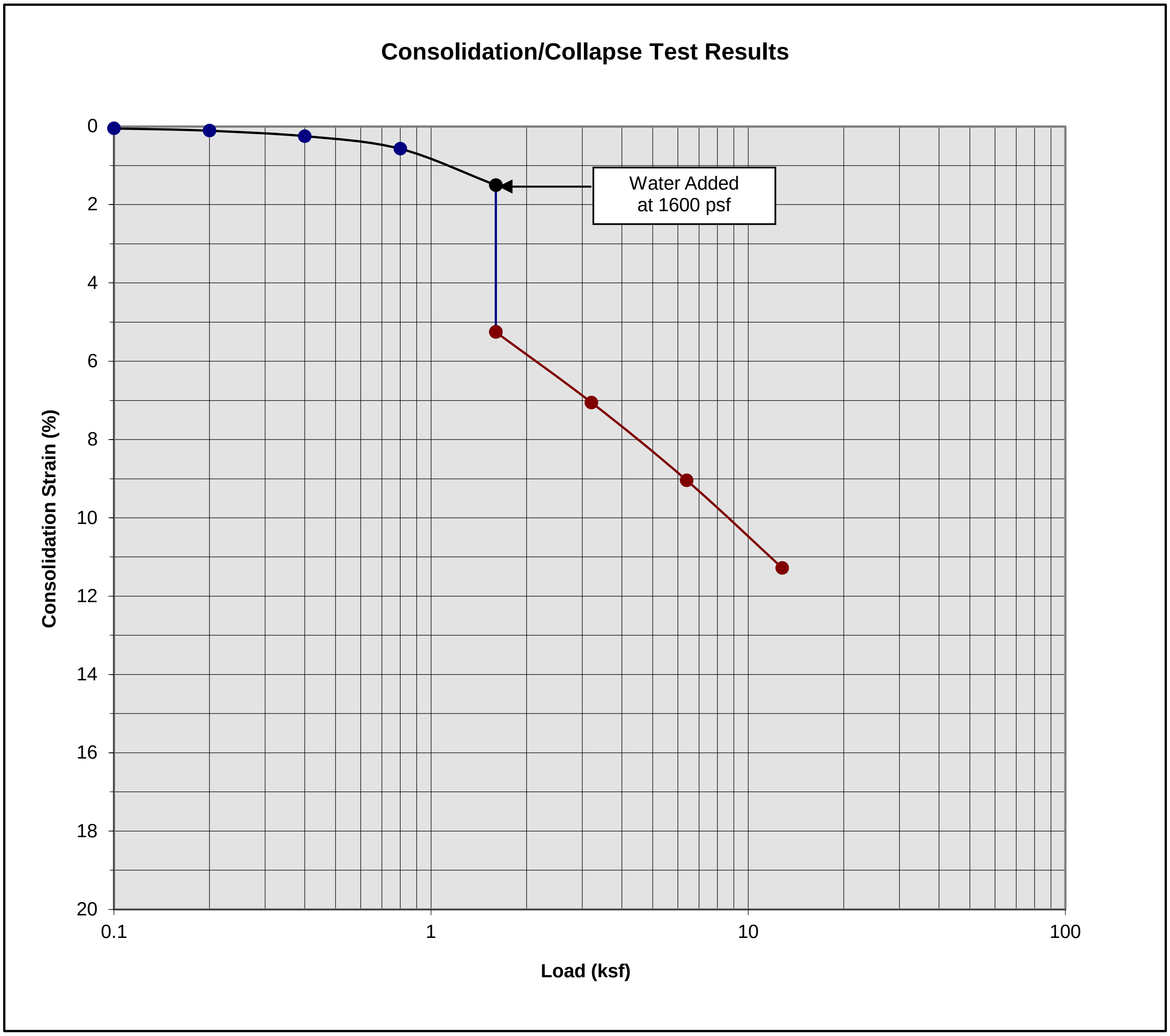


Classification: FILL: Brown Silty fine to coarse Sand, trace fine Gravel

Boring Number:	B-7	Initial Moisture Content (%)	4
Sample Number:	---	Final Moisture Content (%)	15
Depth (ft)	1	Initial Dry Density (pcf)	102.8
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	116.2
Specimen Thickness (in)	1.0	Percent Collapse (%)	3.27

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1
PLATE C- 1

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL A California Corporation



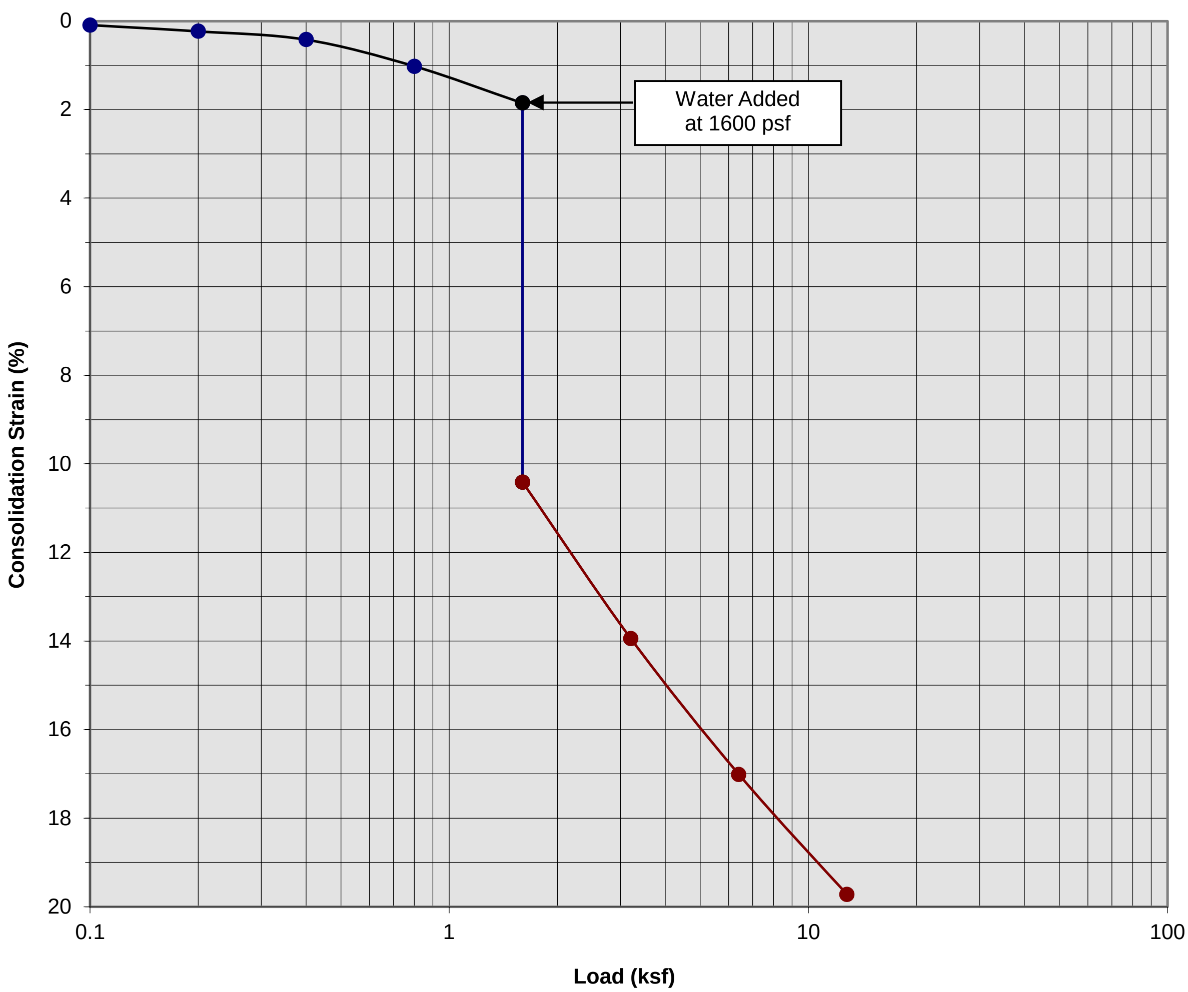
Classification: FILL: Brown Silty fine to coarse Sand, some fine to coarse Gravel

Boring Number:	B-7	Initial Moisture Content (%)	2
Sample Number:	---	Final Moisture Content (%)	11
Depth (ft)	3	Initial Dry Density (pcf)	111.9
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	125.8
Specimen Thickness (in)	1.0	Percent Collapse (%)	3.75

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1
PLATE C- 2

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL *A California Corporation*

Consolidation/Collapse Test Results

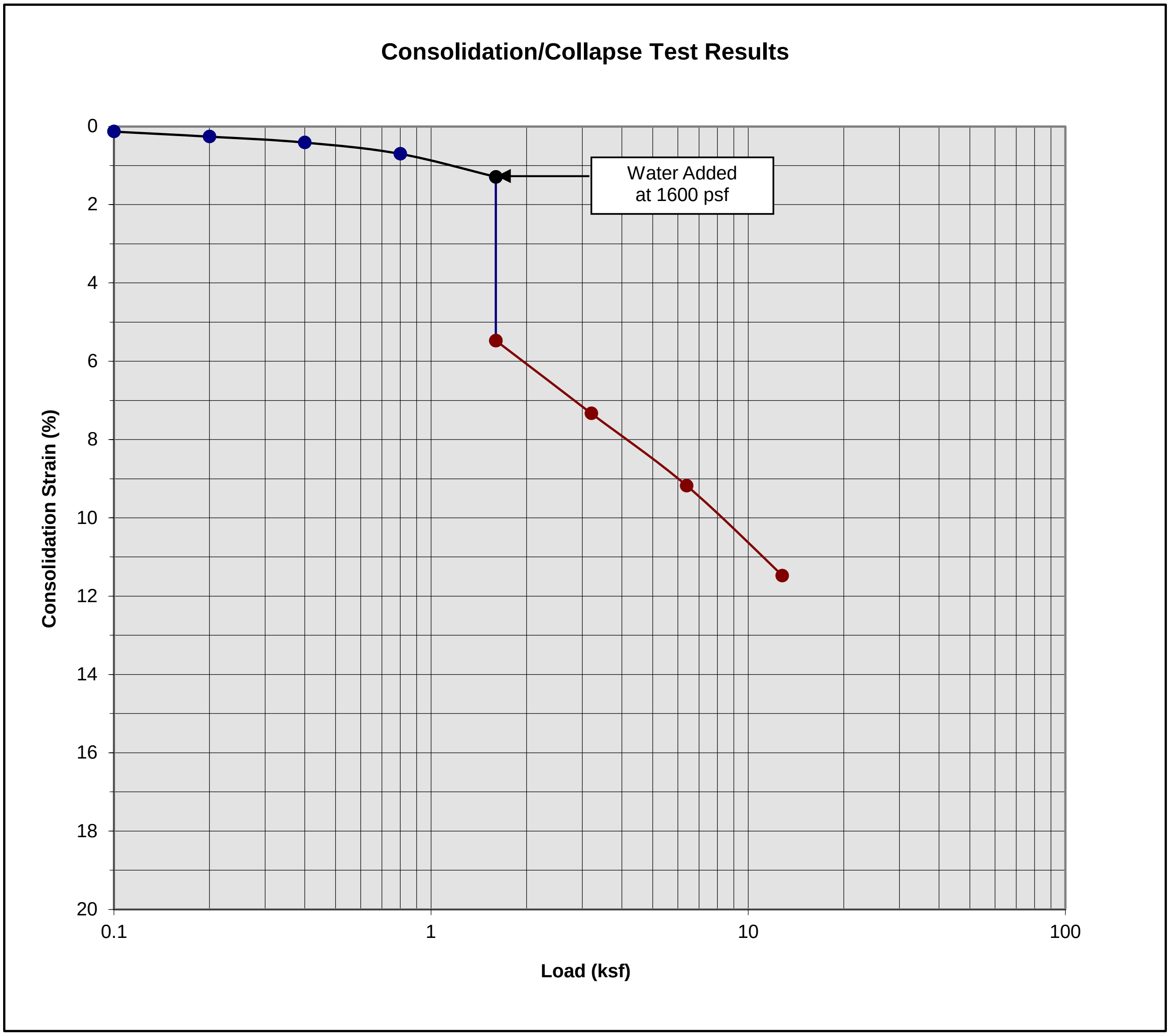


Classification: FILL: Orange Brown Silty fine Sand, trace medium to coarse Sand

Boring Number:	B-9	Initial Moisture Content (%)	6
Sample Number:	---	Final Moisture Content (%)	16
Depth (ft)	5	Initial Dry Density (pcf)	102.7
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	127.3
Specimen Thickness (in)	1.0	Percent Collapse (%)	8.56

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1
PLATE C- 3

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

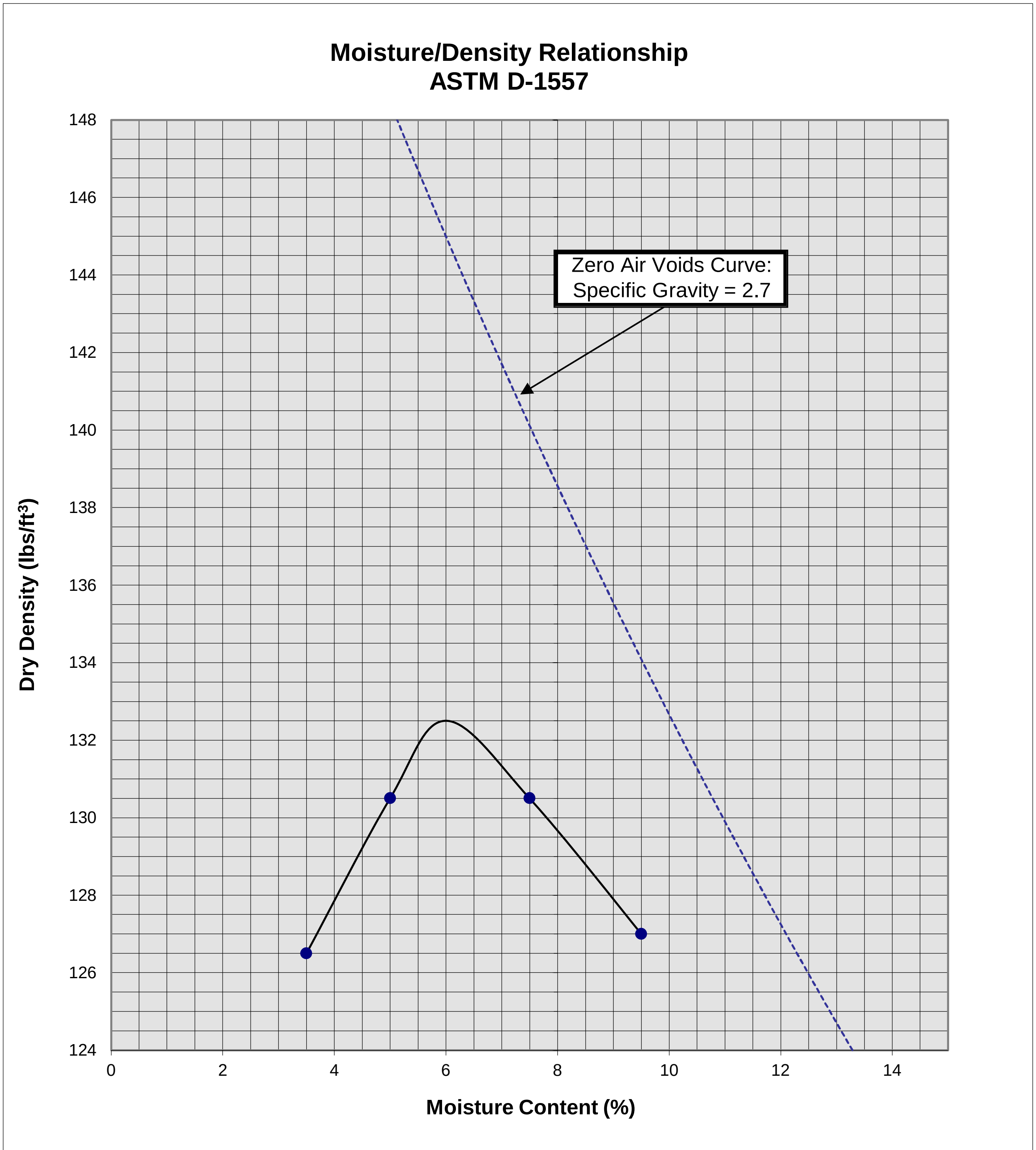


Classification: FILL: Orange Brown Silty fine Sand, little medium to coarse Sand, trace Clay

Boring Number:	B-9	Initial Moisture Content (%)	5
Sample Number:	---	Final Moisture Content (%)	16
Depth (ft)	7	Initial Dry Density (pcf)	106.5
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	119.7
Specimen Thickness (in)	1.0	Percent Collapse (%)	4.18

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1
PLATE C- 4

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

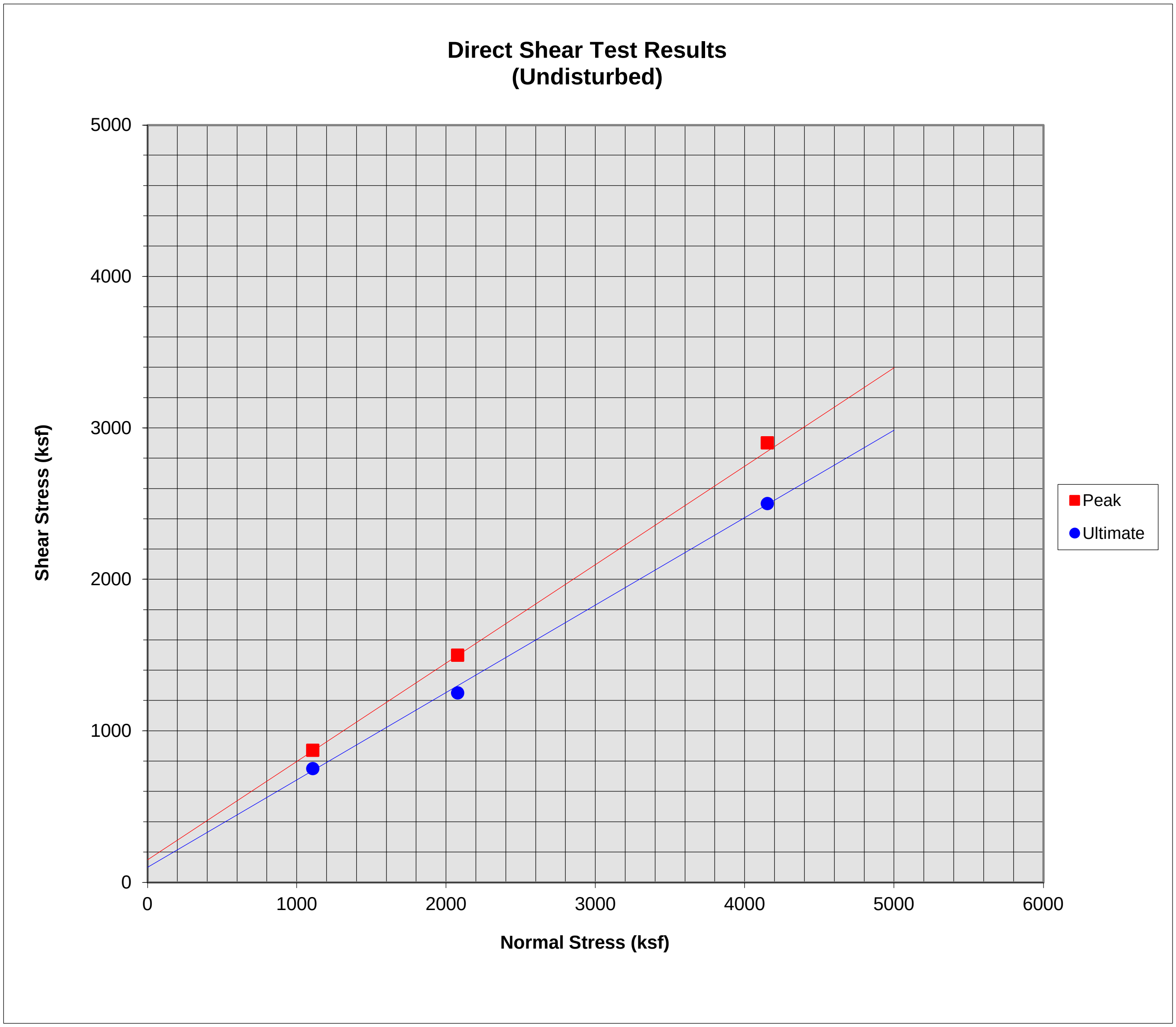


Soil ID Number	B-8 @ 0-5'
Optimum Moisture (%)	6
Maximum Dry Density (pcf)	132.5
Soil Classification	Gray Brown fine to coarse grained Granite with Light Orange Brown Silty fine Sand, trace Clay

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1

PLATE C-5

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation



Sample Description: B-10 @ 9'

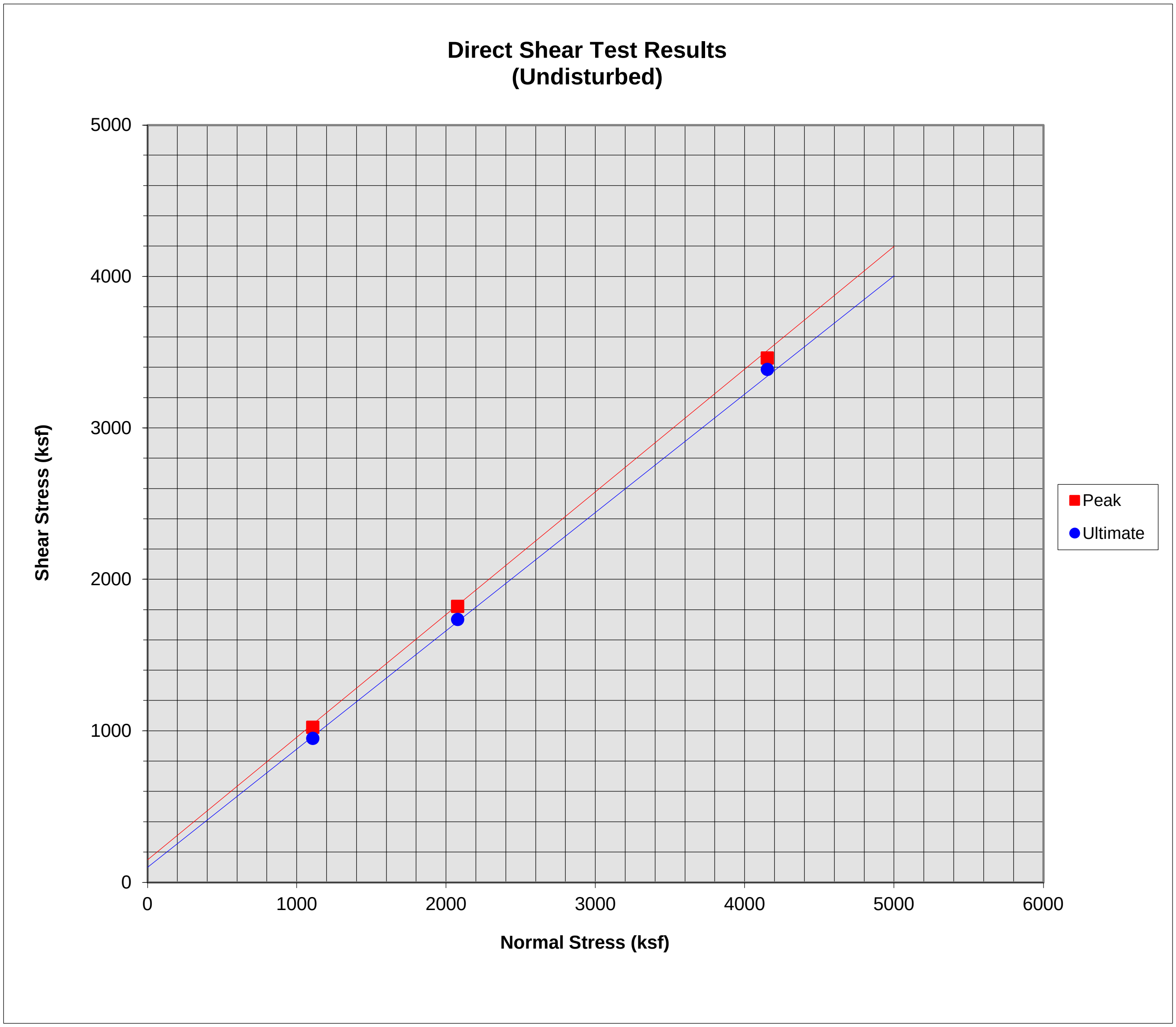
Classification: FILL: Dark Red fine Sandy Silt

Sample Data		Test Results	Peak	Ultimate
Initial Moisture Content	9.0			
Final Moisture Content	17.8		Peak	Ultimate
Initial Dry Density	114.0	ϕ (°)	33.0	30.0
Final Dry Density	113.6	C (psf)	150	100
Specimen Diameter (in)	2.4			
Specimen Thickness (in)	1.0			

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1

SOCALGEO SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

PLATE C- 6



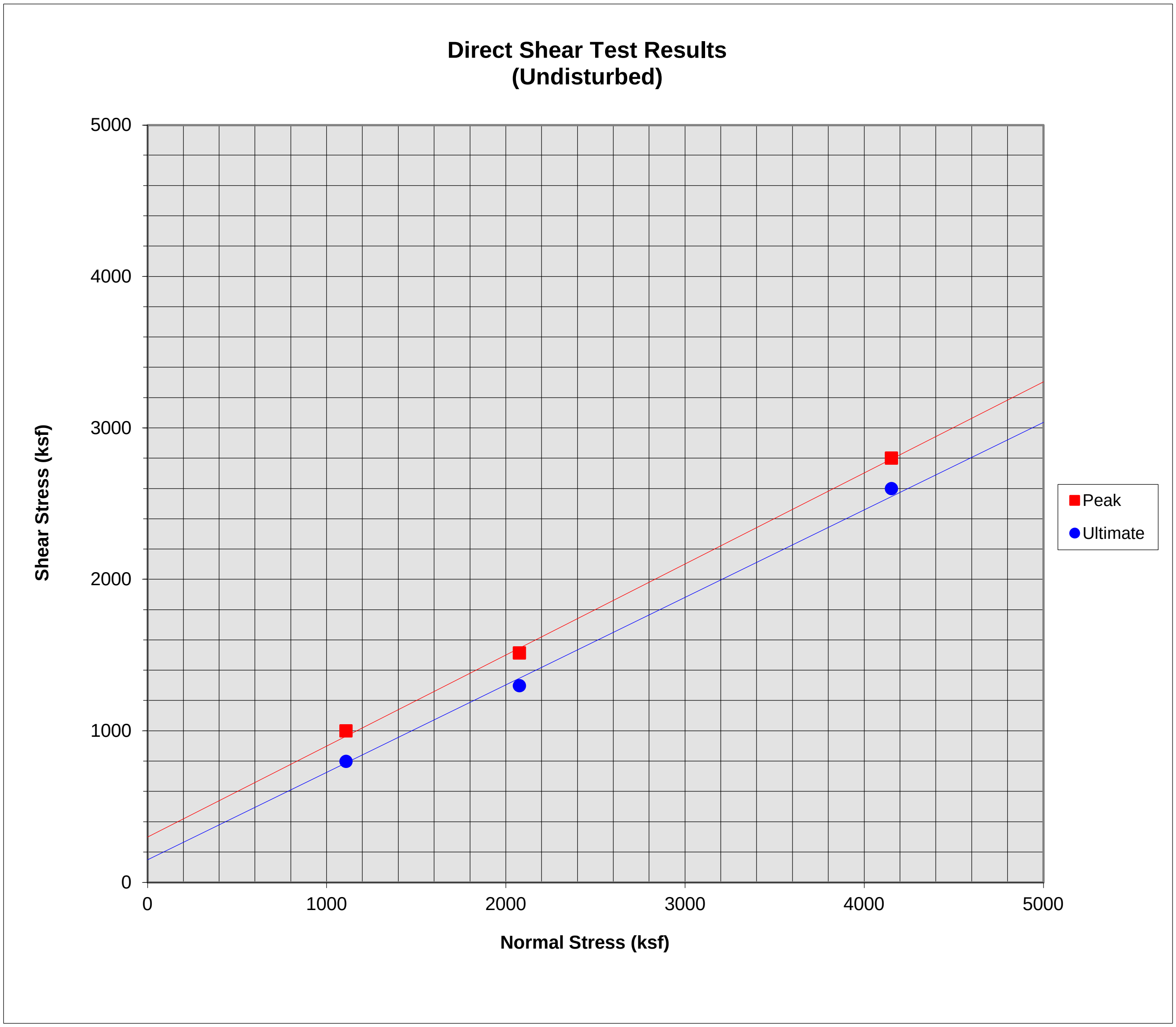
Sample Description: B-10 @ 19'

Classification: BEDROCK: Dark Gray medium to coarse grained Granite

Sample Data		Test Results	Peak	Ultimate
Initial Moisture Content	2.0			
Final Moisture Content	18.6		Peak	Ultimate
Initial Dry Density	115.0	ϕ (°)	39.0	38.0
Final Dry Density	110.3	C (psf)	150	100
Specimen Diameter (in)	2.4			
Specimen Thickness (in)	1.0			

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1
PLATE C- 7

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL *A California Corporation*



Sample Description: B-11 @ 5'

Classification: FILL: Brown Silty fine to coarse Sand, trace fine Gravel, little calcareous nodules

Sample Data		Test Results		
Initial Moisture Content	1.0			
Final Moisture Content	16.4		Peak	Ultimate
Initial Dry Density	126.0	φ (°)	31.0	30.0
Final Dry Density	118.6	C (psf)	300	150
Specimen Diameter (in)	2.4			
Specimen Thickness (in)	1.0			

Proposed Orangecrest Community Church Campus
Riverside, California
Project No. 20G238-1

PLATE C- 8

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

APPENDIX D

GRADING GUIDE SPECIFICATIONS

These grading guide specifications are intended to provide typical procedures for grading operations. They are intended to supplement the recommendations contained in the geotechnical investigation report for this project. Should the recommendations in the geotechnical investigation report conflict with the grading guide specifications, the more site specific recommendations in the geotechnical investigation report will govern.

General

- The Earthwork Contractor is responsible for the satisfactory completion of all earthwork in accordance with the plans and geotechnical reports, and in accordance with city, county, and applicable building codes.

- The Geotechnical Engineer is the representative of the Owner/Builder for the purpose of implementing the report recommendations and guidelines. These duties are not intended to relieve the Earthwork Contractor of any responsibility to perform in a workman-like manner, nor is the Geotechnical Engineer to direct the grading equipment or personnel employed by the Contractor.

- The Earthwork Contractor is required to notify the Geotechnical Engineer of the anticipated work and schedule so that testing and inspections can be provided. If necessary, work may be stopped and redone if personnel have not been scheduled in advance.

- The Earthwork Contractor is required to have suitable and sufficient equipment on the job-site to process, moisture condition, mix and compact the amount of fill being placed to the approved compaction. In addition, suitable support equipment should be available to conform with recommendations and guidelines in this report.

- Canyon cleanouts, overexcavation areas, processed ground to receive fill, key excavations, subdrains and benches should be observed by the Geotechnical Engineer prior to placement of any fill. It is the Earthwork Contractor's responsibility to notify the Geotechnical Engineer of areas that are ready for inspection.

- Excavation, filling, and subgrade preparation should be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs, and seepage water encountered shall be pumped or drained to provide a suitable working surface. The Geotechnical Engineer must be informed of springs or water seepage encountered during grading or foundation construction for possible revision to the recommended construction procedures and/or installation of subdrains.

Site Preparation

- The Earthwork Contractor is responsible for all clearing, grubbing, stripping and site preparation for the project in accordance with the recommendations of the Geotechnical Engineer.

- If any materials or areas are encountered by the Earthwork Contractor which are suspected of having toxic or environmentally sensitive contamination, the Geotechnical Engineer and Owner/Builder should be notified immediately.

- Major vegetation should be stripped and disposed of off-site. This includes trees, brush, heavy grasses and any materials considered unsuitable by the Geotechnical Engineer.

- Underground structures such as basements, cesspools or septic disposal systems, mining shafts, tunnels, wells and pipelines should be removed under the inspection of the Geotechnical Engineer and recommendations provided by the Geotechnical Engineer and/or city, county or state agencies. If such structures are known or found, the Geotechnical Engineer should be notified as soon as possible so that recommendations can be formulated.

- Any topsoil, slopewash, colluvium, alluvium and rock materials which are considered unsuitable by the Geotechnical Engineer should be removed prior to fill placement.

- Remaining voids created during site clearing caused by removal of trees, foundations basements, irrigation facilities, etc., should be excavated and filled with compacted fill.

- Subsequent to clearing and removals, areas to receive fill should be scarified to a depth of 10 to 12 inches, moisture conditioned and compacted

- The moisture condition of the processed ground should be at or slightly above the optimum moisture content as determined by the Geotechnical Engineer. Depending upon field conditions, this may require air drying or watering together with mixing and/or discing.

Compacted Fills

- Soil materials imported to or excavated on the property may be utilized in the fill, provided each material has been determined to be suitable in the opinion of the Geotechnical Engineer. Unless otherwise approved by the Geotechnical Engineer, all fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as "contaminated," and shall be very low to non-expansive with a maximum expansion index (EI) of 50. The top 12 inches of the compacted fill should have a maximum particle size of 3 inches, and all underlying compacted fill material a maximum 6-inch particle size, except as noted below.

- All soils should be evaluated and tested by the Geotechnical Engineer. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or selective placement and/or mixing to the satisfaction of the Geotechnical Engineer.

- Rock fragments or rocks less than 6 inches in their largest dimensions, or as otherwise determined by the Geotechnical Engineer, may be used in compacted fill, provided the distribution and placement is satisfactory in the opinion of the Geotechnical Engineer.

- Rock fragments or rocks greater than 12 inches should be taken off-site or placed in accordance with recommendations and in areas designated as suitable by the Geotechnical Engineer. These materials should be placed in accordance with Plate D-8 of these Grading Guide Specifications and in accordance with the following recommendations:

  - Rocks 12 inches or more in diameter should be placed in rows at least 15 feet apart, 15 feet from the edge of the fill, and 10 feet or more below subgrade. Spaces should be left between each rock fragment to provide for placement and compaction of soil around the fragments.

  - Fill materials consisting of soil meeting the minimum moisture content requirements and free of oversize material should be placed between and over the rows of rock or concrete. Ample water and compactive effort should be applied to the fill materials as they are placed in order that all of the voids between each of the fragments are filled and compacted to the specified density.

- Subsequent rows of rocks should be placed such that they are not directly above a row placed in the previous lift of fill. A minimum 5-foot offset between rows is recommended.

- To facilitate future trenching, oversized material should not be placed within the range of foundation excavations, future utilities or other underground construction unless specifically approved by the soil engineer and the developer/owner representative.

- Fill materials approved by the Geotechnical Engineer should be placed in areas previously prepared to receive fill and in evenly placed, near horizontal layers at about 6 to 8 inches in loose thickness, or as otherwise determined by the Geotechnical Engineer for the project.

- Each layer should be moisture conditioned to optimum moisture content, or slightly above, as directed by the Geotechnical Engineer. After proper mixing and/or drying, to evenly distribute the moisture, the layers should be compacted to at least 90 percent of the maximum dry density in compliance with ASTM D-1557-78 unless otherwise indicated.

- Density and moisture content testing should be performed by the Geotechnical Engineer at random intervals and locations as determined by the Geotechnical Engineer. These tests are intended as an aid to the Earthwork Contractor, so he can evaluate his workmanship, equipment effectiveness and site conditions. The Earthwork Contractor is responsible for compaction as required by the Geotechnical Report(s) and governmental agencies.

- Fill areas unused for a period of time may require moisture conditioning, processing and recompaction prior to the start of additional filling. The Earthwork Contractor should notify the Geotechnical Engineer of his intent so that an evaluation can be made.

- Fill placed on ground sloping at a 5-to-1 inclination (horizontal-to-vertical) or steeper should be benched into bedrock or other suitable materials, as directed by the Geotechnical Engineer. Typical details of benching are illustrated on Plates D-2, D-4, and D-5.

- Cut/fill transition lots should have the cut portion overexcavated to a depth of at least 3 feet and rebuilt with fill (see Plate D-1), as determined by the Geotechnical Engineer.

- All cut lots should be inspected by the Geotechnical Engineer for fracturing and other bedrock conditions. If necessary, the pads should be overexcavated to a depth of 3 feet and rebuilt with a uniform, more cohesive soil type to impede moisture penetration.

- Cut portions of pad areas above buttresses or stabilizations should be overexcavated to a depth of 3 feet and rebuilt with uniform, more cohesive compacted fill to impede moisture penetration.

- Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure that excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below grade walls must be properly tested and approved by the Geotechnical Engineer with consideration of the lateral earth pressure used in the design.

Foundations

- The foundation influence zone is defined as extending one foot horizontally from the outside edge of a footing, and proceeding downward at a ½ horizontal to 1 vertical (0.5:1) inclination.

- Where overexcavation beneath a footing subgrade is necessary, it should be conducted so as to encompass the entire foundation influence zone, as described above.

- Compacted fill adjacent to exterior footings should extend at least 12 inches above foundation bearing grade. Compacted fill within the interior of structures should extend to the floor subgrade elevation.

Fill Slopes

- The placement and compaction of fill described above applies to all fill slopes. Slope compaction should be accomplished by overfilling the slope, adequately compacting the fill in even layers, including the overfilled zone and cutting the slope back to expose the compacted core

- Slope compaction may also be achieved by backrolling the slope adequately every 2 to 4 vertical feet during the filling process as well as requiring the earth moving and compaction equipment to work close to the top of the slope. Upon completion of slope construction, the slope face should be compacted with a sheepsfoot connected to a sideboom and then grid rolled. This method of slope compaction should only be used if approved by the Geotechnical Engineer.

- Sandy soils lacking in adequate cohesion may be unstable for a finished slope condition and therefore should not be placed within 15 horizontal feet of the slope face.

- All fill slopes should be keyed into bedrock or other suitable material. Fill keys should be at least 15 feet wide and inclined at 2 percent into the slope. For slopes higher than 30 feet, the fill key width should be equal to one-half the height of the slope (see Plate D-5).

- All fill keys should be cleared of loose slough material prior to geotechnical inspection and should be approved by the Geotechnical Engineer and governmental agencies prior to filling.

- The cut portion of fill over cut slopes should be made first and inspected by the Geotechnical Engineer for possible stabilization requirements. The fill portion should be adequately keyed through all surficial soils and into bedrock or suitable material. Soils should be removed from the transition zone between the cut and fill portions (see Plate D-2).

Cut Slopes

- All cut slopes should be inspected by the Geotechnical Engineer to determine the need for stabilization. The Earthwork Contractor should notify the Geotechnical Engineer when slope cutting is in progress at intervals of 10 vertical feet. Failure to notify may result in a delay in recommendations.

- Cut slopes exposing loose, cohesionless sands should be reported to the Geotechnical Engineer for possible stabilization recommendations.

- All stabilization excavations should be cleared of loose slough material prior to geotechnical inspection. Stakes should be provided by the Civil Engineer to verify the location and dimensions of the key. A typical stabilization fill detail is shown on Plate D-5.

- Stabilization key excavations should be provided with subdrains. Typical subdrain details are shown on Plates D-6.

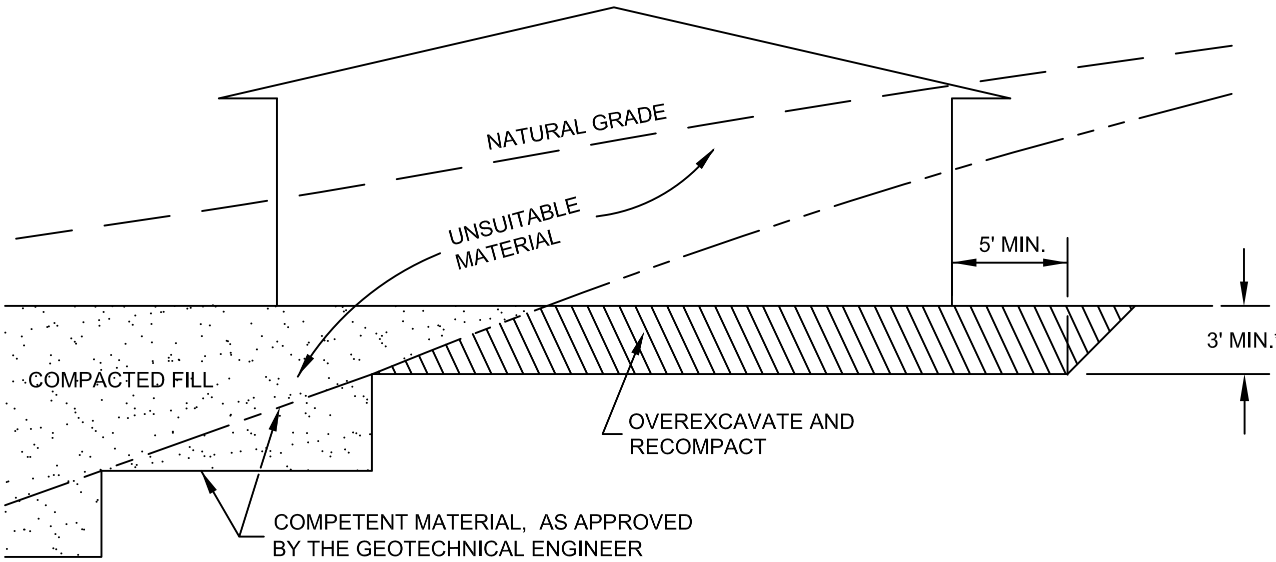
Subdrains

- Subdrains may be required in canyons and swales where fill placement is proposed. Typical subdrain details for canyons are shown on Plate D-3. Subdrains should be installed after approval of removals and before filling, as determined by the Soils Engineer.

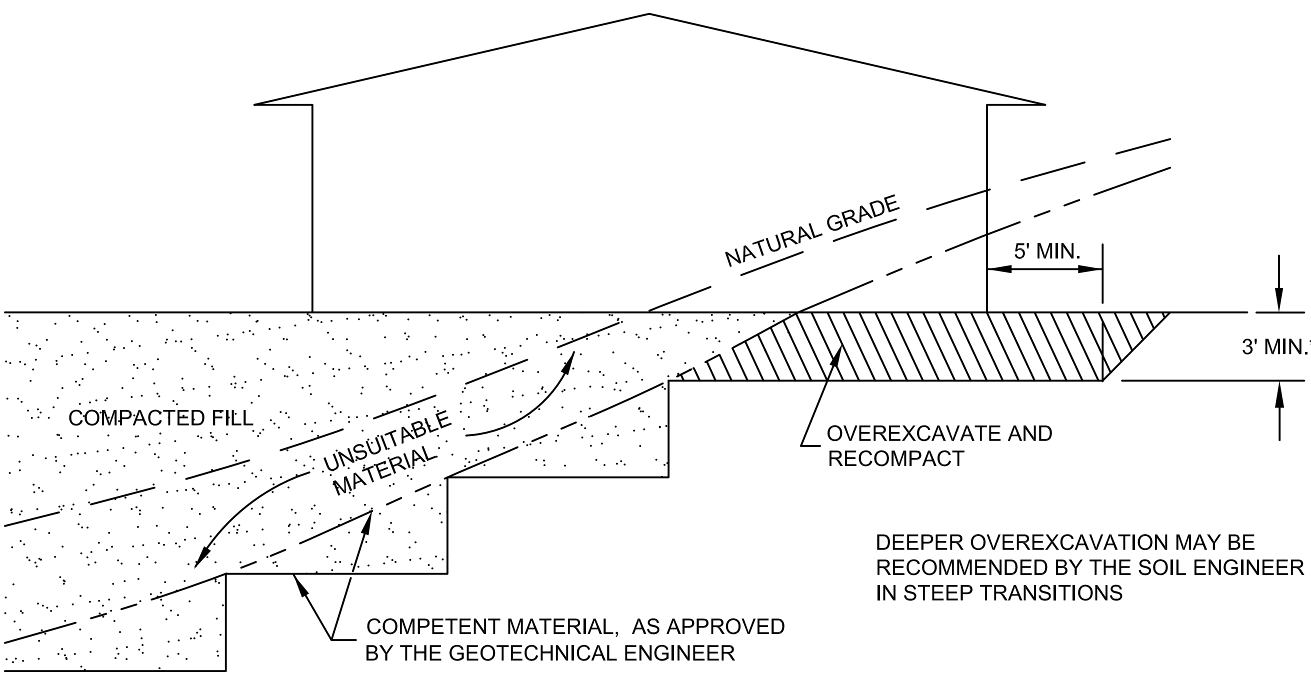
- Plastic pipe may be used for subdrains provided it is Schedule 40 or SDR 35 or equivalent. Pipe should be protected against breakage, typically by placement in a square-cut (backhoe) trench or as recommended by the manufacturer.

- Filter material for subdrains should conform to CALTRANS Specification 68-1.025 or as approved by the Geotechnical Engineer for the specific site conditions. Clean ¾-inch crushed rock may be used provided it is wrapped in an acceptable filter cloth and approved by the Geotechnical Engineer. Pipe diameters should be 6 inches for runs up to 500 feet and 8 inches for the downstream continuations of longer runs. Four-inch diameter pipe may be used in buttress and stabilization fills.

CUT LOT



CUT/FILL LOT (TRANSITION)



*SEE TEXT OF REPORT FOR SPECIFIC RECOMMENDATION. ACTUAL DEPTH OF OVEREXCAVATION MAY BE GREATER.

TRANSITION LOT DETAIL

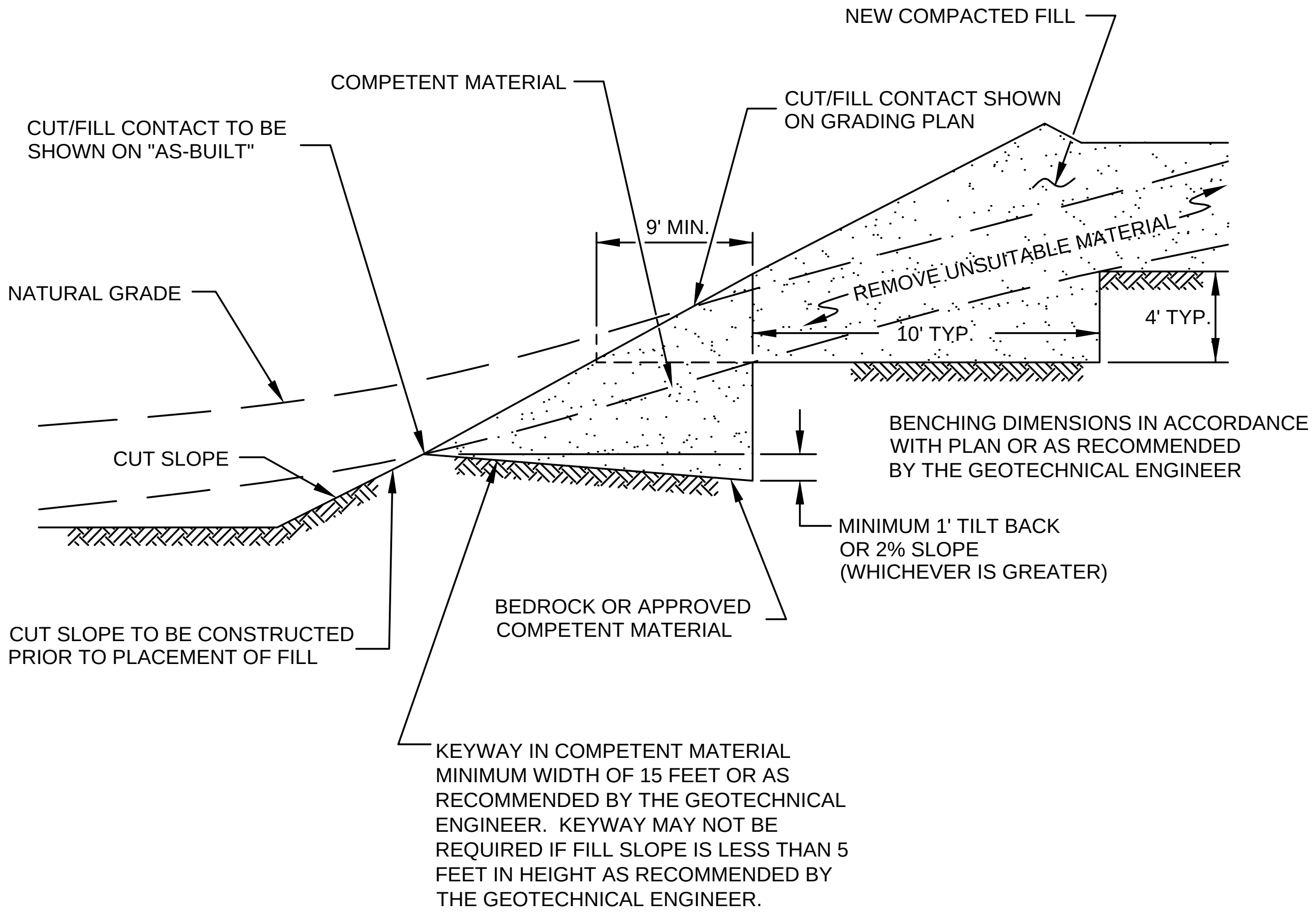
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-1

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL



FILL ABOVE CUT SLOPE DETAIL

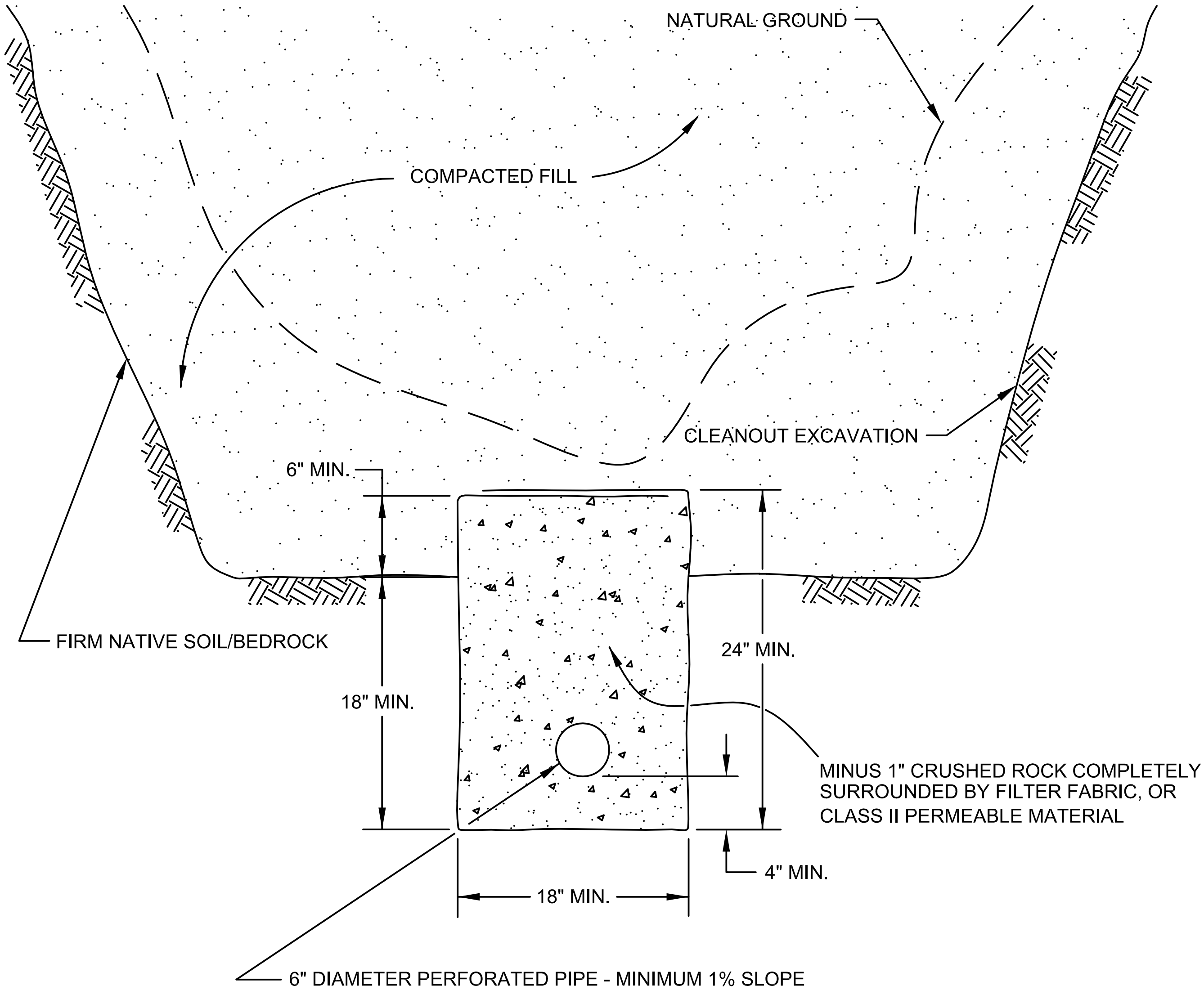
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-2

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL



PIPE MATERIAL	DEPTH OF FILL OVER SUBDRAIN
ADS (CORRUGATED POLETHYLENE)	8
TRANSITE UNDERDRAIN	20
PVC OR ABS: SDR 35	35
SDR 21	100

SCHEMATIC ONLY
NOT TO SCALE

CANYON SUBDRAIN DETAIL

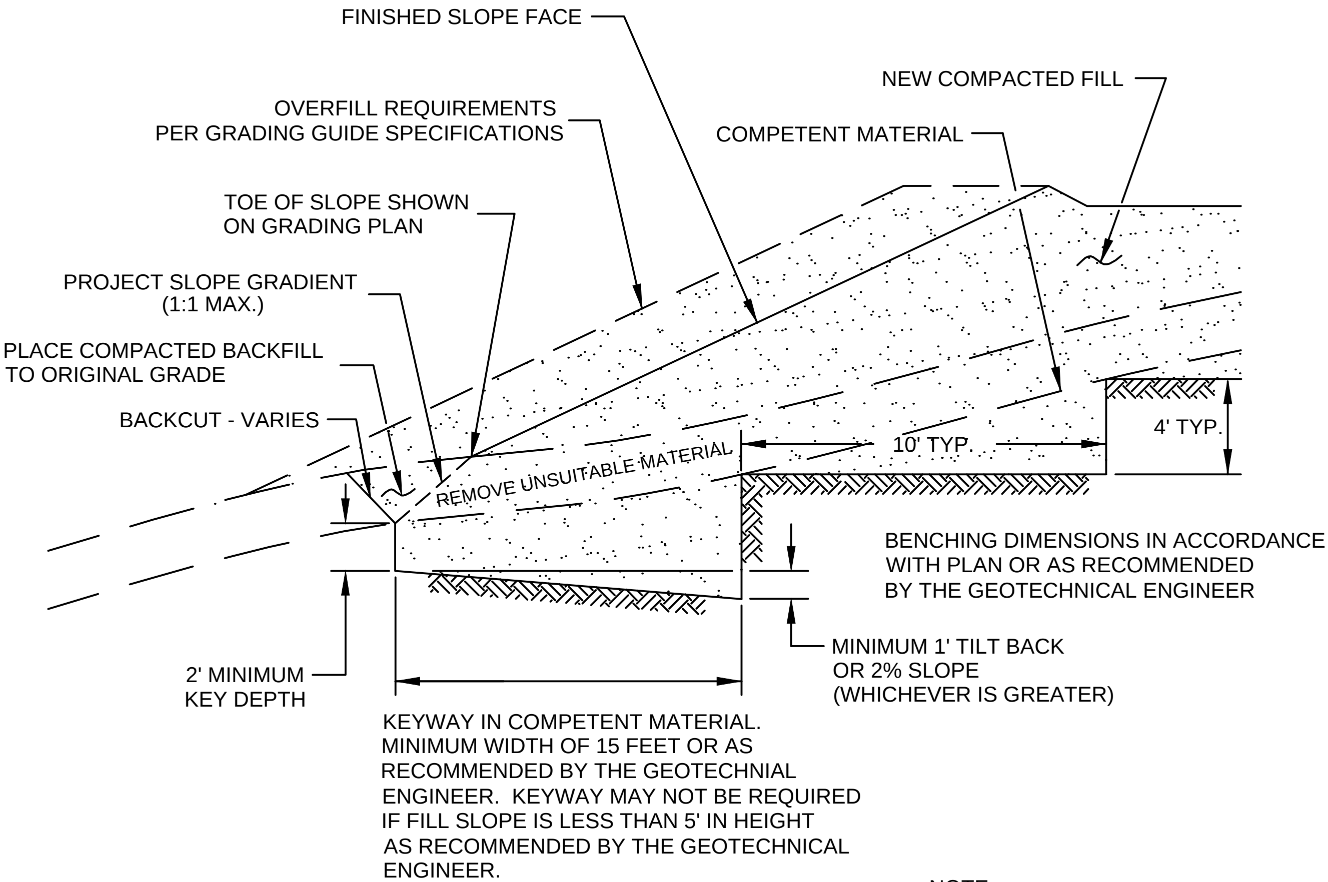
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-3

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL



NOTE:
BENCHING SHALL BE REQUIRED
WHEN NATURAL SLOPES ARE
EQUAL TO OR STEEPER THAN 5:1
OR WHEN RECOMMENDED BY
THE GEOTECHNICAL ENGINEER.

FILL ABOVE NATURAL SLOPE DETAIL

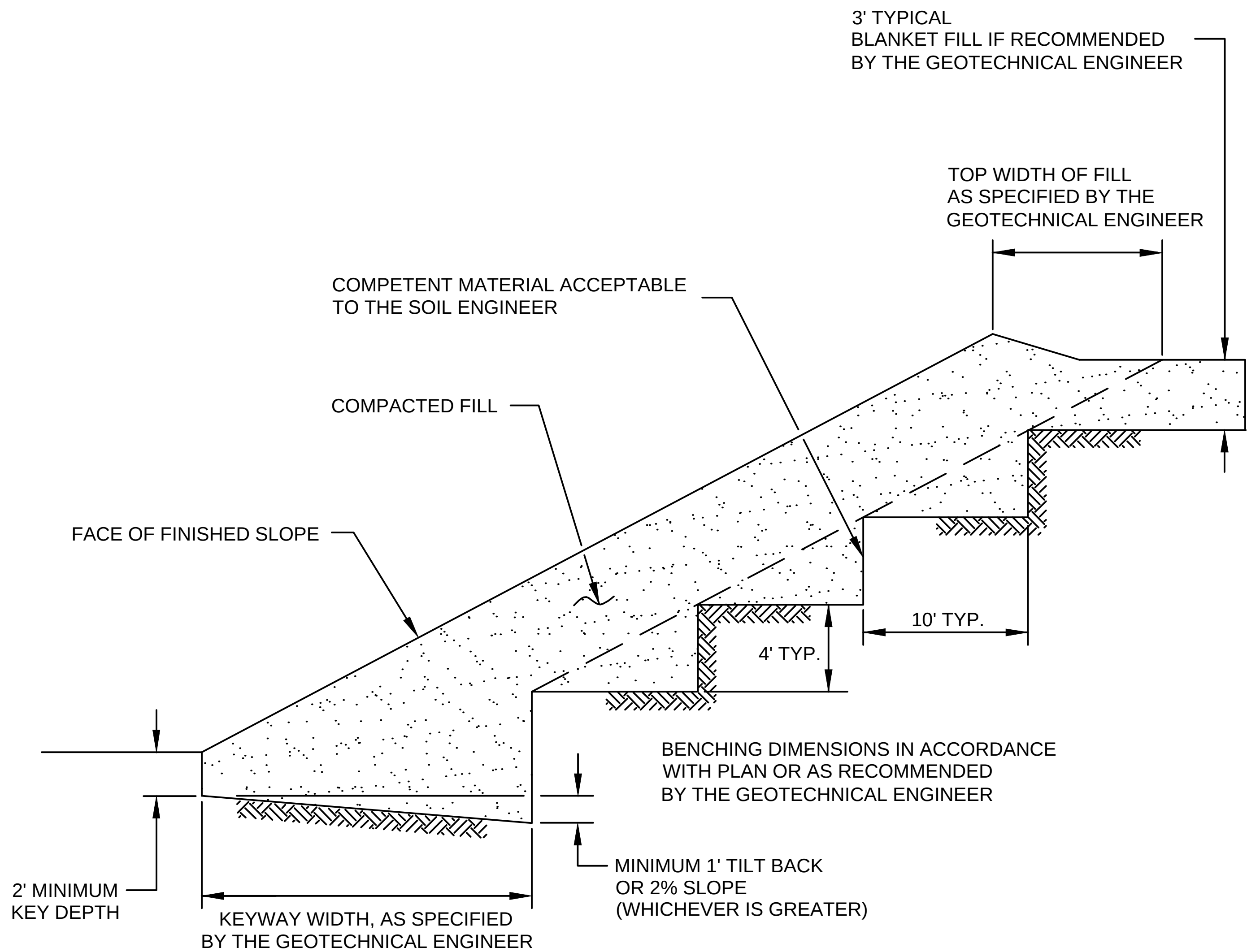
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

PLATE D-4



STABILIZATION FILL DETAIL

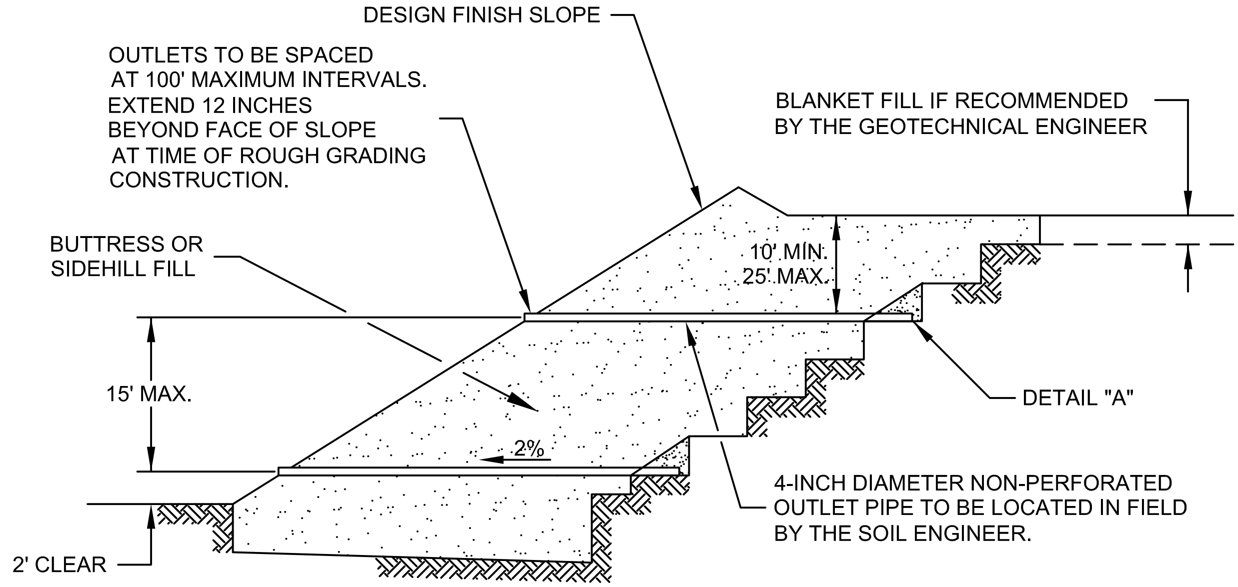
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-5

SOUTHERN CALIFORNIA GEOTECHNICAL



"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

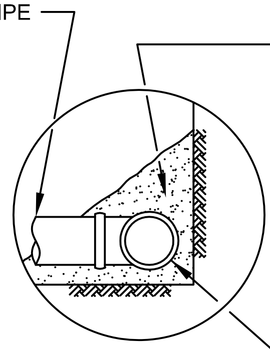
SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8

SAND EQUIVALENT = MINIMUM OF 50

OUTLET PIPE TO BE CONNECTED TO SUBDRAIN PIPE WITH TEE OR ELBOW



FILTER MATERIAL - MINIMUM OF FIVE CUBIC FEET PER FOOT OF PIPE. SEE ABOVE FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL FIVE CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE ABOVE FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 12 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.

DETAIL "A"

NOTES:
1. TRENCH FOR OUTLET PIPES TO BE BACKFILLED WITH ON-SITE SOIL.

SLOPE FILL SUBDRAINS

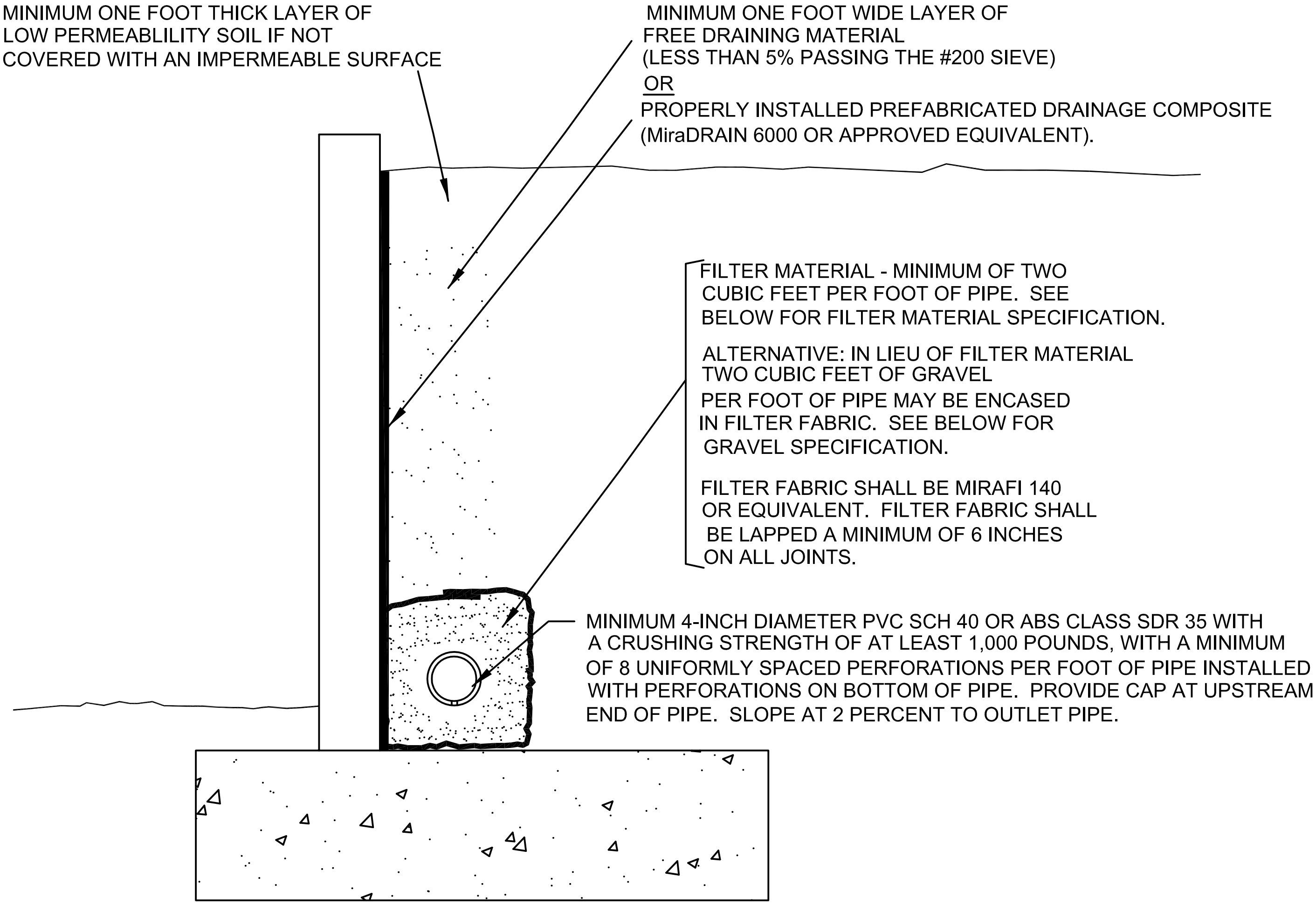
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

SOUTHERN CALIFORNIA GEOTECHNICAL

PLATE D-6



"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION
OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR
APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8

SAND EQUIVALENT = MINIMUM OF 50

RETAINING WALL BACKDRAINS

GRADING GUIDE SPECIFICATIONS

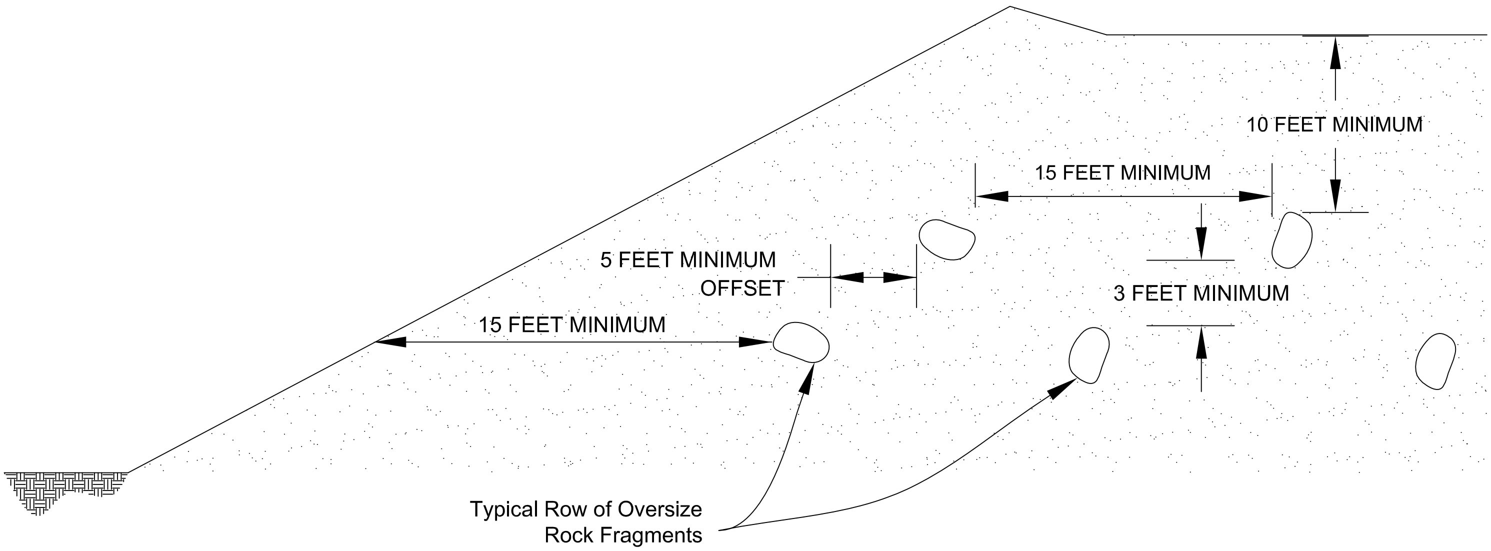
NOT TO SCALE

DRAWN: JAS
CHKD: GKM

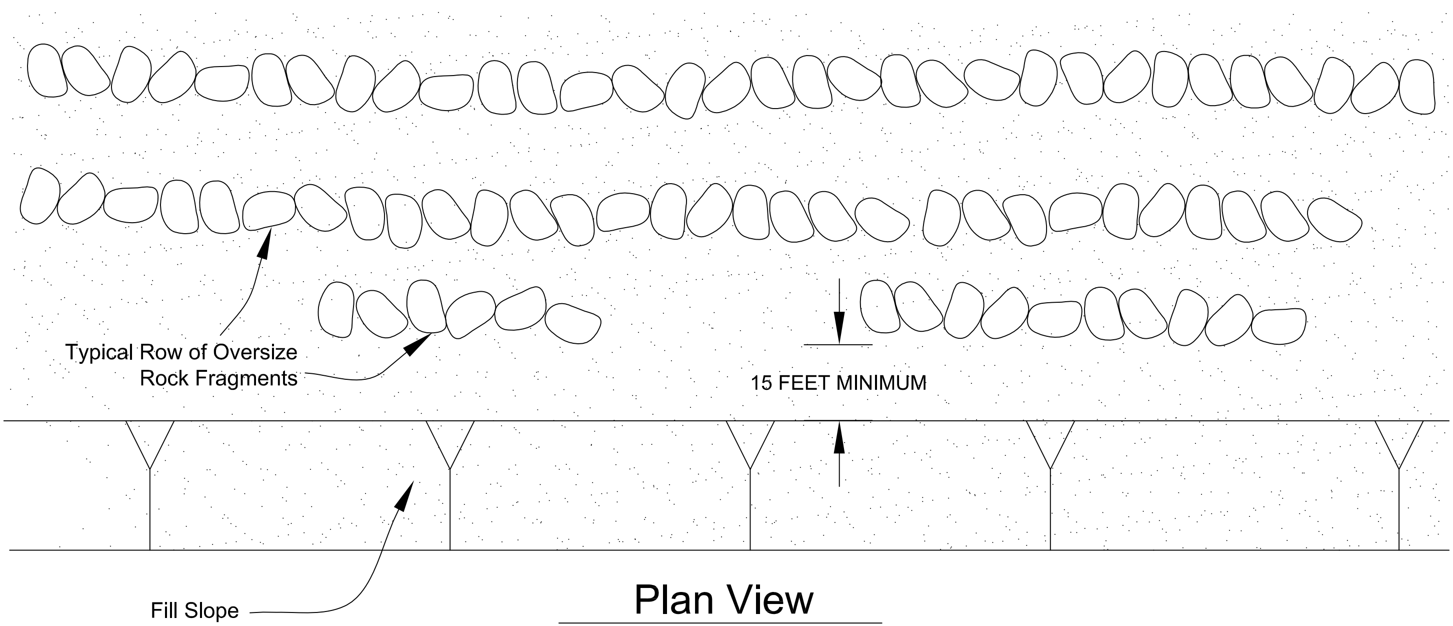
PLATE D-7

SoCalGeo

SOUTHERN
CALIFORNIA
GEOTECHNICAL



Section View



Plan View

PLACEMENT OF OVERSIZED MATERIAL

GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: PM
CHKD: GKM

PLATE D-8

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

APPENDIX E

OSHPD

5695 Glenhaven Ave, Riverside, CA 92506, USA

Latitude, Longitude: 33.9490454, -117.3560467

Date	12/29/2020, 1:55:54 PM
Design Code Reference Document	ASCE7-16
Risk Category	III
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.5	MCE_R ground motion. (for 0.2 second period)
S_1	0.6	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.8	Site-modified spectral acceleration value
S_{M1}	0.84	Site-modified spectral acceleration value
S_{DS}	1.2	Numeric seismic design value at 0.2 second SA
S_{D1}	0.56	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.4	Site amplification factor at 1.0 second
PGA	0.509	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.611	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.655	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.76	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.61	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.667	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.509	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.941	Mapped value of the risk coefficient at short periods

SOURCE: OSHPD Seismic Design Maps
<https://seismicmaps.org/>

SEISMIC DESIGN PARAMETERS

PROPOSED ORANGECREST COMMUNITY CHURCH CAMPUS

RIVERSIDE, CALIFORNIA

DRAWN: RB
CHKD: RGT

SCG PROJECT
20G238-1

PLATE E-1

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

APPENDIX F

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-1

JOB NO.: 15G150
PROJECT: Proposed Senior Housing
LOCATION: Riverside, California

DRILLING DATE: 5/13/15
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Daryl Kas

WATER DEPTH: Dry
CAVE DEPTH: 14 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	UNCONFINED SHEAR (TSF)	COMMENTS
					FILL: Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel, medium dense-damp							
	X	19				100	4					
	X	33				111	4					
5					FILL: Brown Silty fine Sand, trace medium Sand, dense-damp							
	X	44				113	4					
					FILL: Light Gray Silty fine to medium Sand, trace Concrete fragments, very dense-damp							
	X	90/11"				114	5					
	X	87				110	6					
10												
15					FILL: Brown Silty fine to medium Sand, trace coarse Sand, trace Concrete fragments, very dense-damp to moist							
	X	87/11"				118	7					
					BEDROCK: Dark Gray medium to coarse grained Granite, phaneritic, friable, weathered, very dense-dry							
20	X	50/4"				112	2					
25	X	50/3"					2					

Boring Terminated at 26½'

TBL 15G150.GPJ SOCALGEO.GDT 6/3/15

TEST BORING LOG **PLATE B-1**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-2

JOB NO.: 15G150 | DRILLING DATE: 5/13/15 | WATER DEPTH: Dry
PROJECT: Proposed Senior Housing | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: 16 feet
LOCATION: Riverside, California | LOGGED BY: Daryl Kas | READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	UNCONFINED SHEAR (TSF)	COMMENTS
					4± inches Portland cement concrete							
		6			FILL: Gray Brown fine to medium Sand, trace coarse Sand, loose-moist	109	8					
		47			FILL: Brown Silty fine Sand, trace medium to coarse Sand, dense-moist	90	8					
5		5			FILL: Dark Brown Silty fine Sand, trace medium Sand, loose-damp to very moist	102	8					
		5			@ 7 to 10 feet, abundant Asphaltic concrete fragments and Wood chips	86	10					
10		8				80	27					
					FILL: Brown Silty fine to medium Sand, trace Asphaltic concrete fragments and Wood chips, loose-damp							
15		9				102	6					
					FILL: Gray Brown fine to coarse Sand, trace fine Gravel, loose-damp							
20		11				108	3					
					BEDROCK: Gray medium to coarse grained Granite, phaneritic, friable, highly weathered, medium dense-dry to damp							
25		20				121	2					
30		18				116	3					
35												
					Boring Terminated at 35½'							

TBL 15G150.GPJ SOCALGEO.GDT 6/3/15

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-3

JOB NO.: 15G150
PROJECT: Proposed Senior Housing
LOCATION: Riverside, California

DRILLING DATE: 5/13/15
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Daryl Kas

WATER DEPTH: Dry
CAVE DEPTH: 8 feet
READING TAKEN: At Completion

SURFACE ELEVATION: --- MSL

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	UNCONFINED SHEAR (TSF)	COMMENTS
					4± inches Portland cement concrete							
	X	77/11"			FILL: Gray Brown Silty fine to coarse Sand, very dense-damp		6					
							5					
	X	90/10"			BEDROCK: Brown to Light Gray Brown medium to coarse grained Granite, phaneritic, friable, weathered, very dense-damp		4					
5												
	X	79/3"					5					
	X	50/5"	2.5				9					
10												
	X	73/4"	2.0				7					
15					Boring Terminated at 15'							

TBL 15G150.GPJ SOCALGEO.GDT 6/3/15

TEST BORING LOG

PLATE B-3

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-4

JOB NO.: 15G150
PROJECT: Proposed Senior Housing
LOCATION: Riverside, California

DRILLING DATE: 5/13/15
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Daryl Kas

WATER DEPTH: Dry
CAVE DEPTH: 4 feet
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	UNCONFINED SHEAR (TSF)	COMMENTS
					6± inches Portland cement concrete							
	X	36	4.5+		BEDROCK: Brown medium to coarse grained Granite, phaneritic, friable, highly weathered, trace Iron oxide staining, medium dense-damp	118	4					
	X	56	4.5+			128	3					
5	X	23	3.5			124	3					
					Boring Terminated at 7' due to refusal on very dense Bedrock							

TBL 15G150.GPJ SOCALGEO.GDT 6/3/15

TEST BORING LOG

PLATE B-4

BORING NO. B-5

JOB NO.: 15G150	DRILLING DATE: 5/13/15	WATER DEPTH: Dry
PROJECT: Proposed Senior Housing	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 3 feet
LOCATION: Riverside, California	LOGGED BY: Daryl Kas	READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	UNCONFINED SHEAR (TSF)	COMMENTS
					TOPSOIL: Light Gray Brown Silty fine to medium Sand, abundant fine root fibers, loose-dry to damp							
	X	96/9"			BEDROCK: Light Gray Brown medium to coarse grained Granite, phaneritic, friable, weathered, trace Iron oxide staining, very dense-dry to damp		2					
	X	97/1"	2.75				4					
5												
	X	50/3"					1					
	X	50/1"	2.5			121	2					
					Boring Terminated at 9' due to refusal on very dense Bedrock							

TBL 15G150.GPJ SOCALGEO.GDT 6/3/15

TEST BORING LOG **PLATE B-5**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-6

JOB NO.: 15G150
PROJECT: Proposed Senior Housing
LOCATION: Riverside, California

DRILLING DATE: 5/13/15
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Daryl Kas

WATER DEPTH: Dry
CAVE DEPTH: 15 feet
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	UNCONFINED SHEAR (TSF)	COMMENTS
					3± inches Asphaltic concrete, 2± inches Aggregate base							
		19			FILL: Brown Silty fine Sand, trace medium Sand, medium dense-damp to moist	114	8					
		19				118	4					
5		12			FILL: Brown fine to coarse Sand, loose-damp	104	3					
		35			FILL: Brown Silty fine to medium Sand, trace coarse Sand, medium dense-damp	119	3					
		50			@ 9 feet, dense	120	5					
10												
					BEDROCK: Brown medium to coarse grained Granite, phaneritic, friable, weathered, trace Iron oxide staining, dense-damp to moist							
15		58	4.5+			117	3					
20		86/9"	4.5+				10					

Boring Terminated at 21½'

TBL 15G150.GPJ SOCALGEO.GDT 6/3/15

TEST BORING LOG **PLATE B-6**

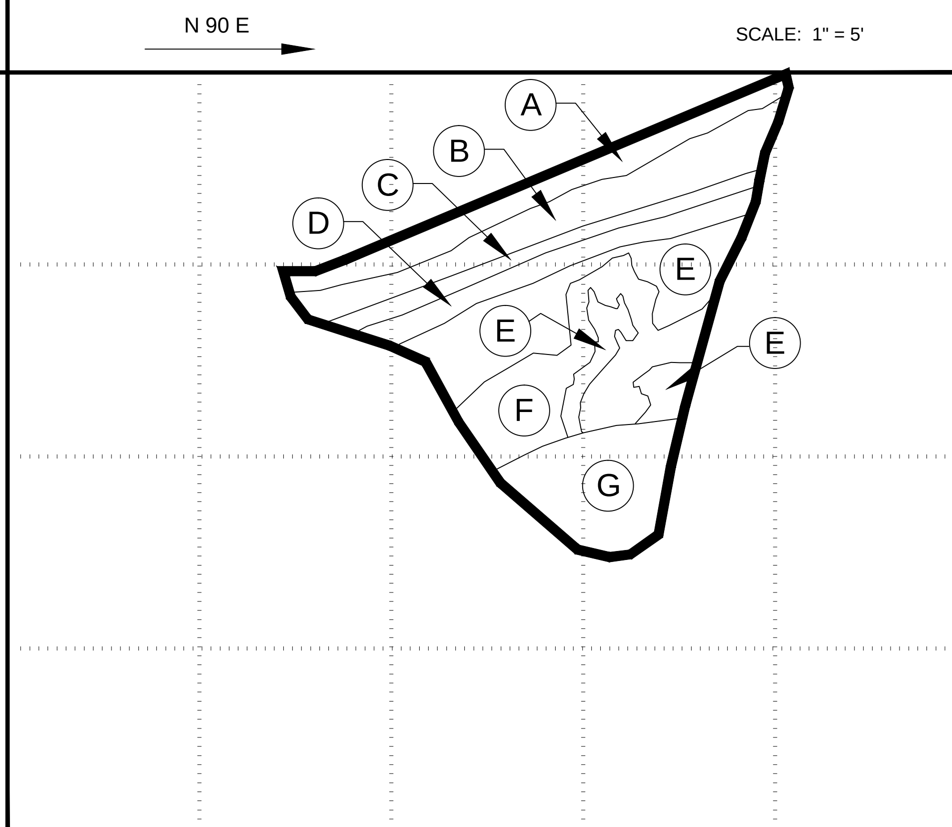
SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO.
T-1

JOB NO.: 15G150-1	EQUIPMENT USED: Backhoe	WATER DEPTH: Dry
PROJECT: Proposed Senior Housing	LOGGED BY: Daryl Kas	SEEPAGE DEPTH: Dry
LOCATION: Riverside, CA	ORIENTATION: N 90 E	READINGS TAKEN: At Completion
DATE: 05-12-2015	ELEVATION: 1089 feet msl	

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
	b		3	A: FILL: Brown Silty fine to coarse Sand, porous, abundant root fibers, loose-dry to damp
	b		2	B: FILL: Brown Silty fine Sand, trace medium to coarse Sand, slightly porous, trace fine root fibers, medium dense - dry to damp
	b		5	C: FILL: Gray fine to coarse Sand, loose to medium dense - damp
5				D: FILL: White concrete slurry, cemented, very dense dry
	b		4	
	b		2	E: FILL: Light Gray Silty fine to medium Sand, trace coarse Sand, medium dense - dry to damp
				F: FILL: Brown fine to coarse Sand, medium dense - dry to damp
	b		2	
10				
				G: BEDROCK (Krg): Brown medium to coarse grained Granite, phaneritic, weathered, friable, dense to very dense - damp
	b		5	
				Trench Terminated @ 13 feet
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
b - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER
(RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-7

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. T-2

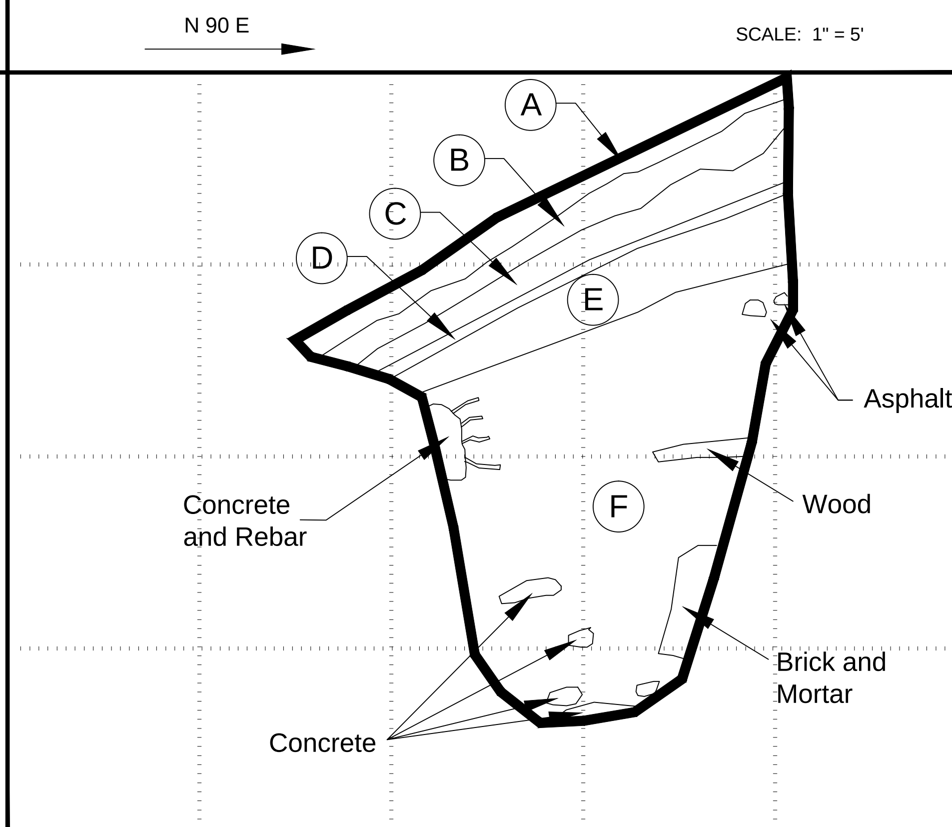
JOB NO.: 15G150-1
PROJECT: Proposed Senior Housing
LOCATION: Riverside, CA
DATE: 05-12-2015

EQUIPMENT USED: Backhoe
LOGGED BY: Daryl Kas
ORIENTATION: N 90 E
ELEVATION: 1090 feet msl

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
	b		3	A: FILL: Brown Silty fine to medium Sand, porous, abundant root fibers, loose - dry to damp
	b		4	B: FILL: Brown Silty fine to medium Sand, porous, trace fine root fibers, loose - dry to damp
	b		4	C: FILL: Brown Silty fine Sand, trace fine root fibers, loose - damp
	b		3	D: FILL: White Concrete slurry, cemented, very dense - dry to damp
5				
	b		4	E: FILL: Brown Silty fine Sand, loose - damp
10	b		4	
				F: FILL: Light Gray Brown fine to coarse Sand, abundant rubble debris including concrete, brick, wood, asphalt, rebar, loose to medium dense - damp
	b		5	
15				
	b		5	
				Trench Terminated @ 17 feet Due to Refusal on Concrete debris

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
b - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER
(RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-8

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. T-3

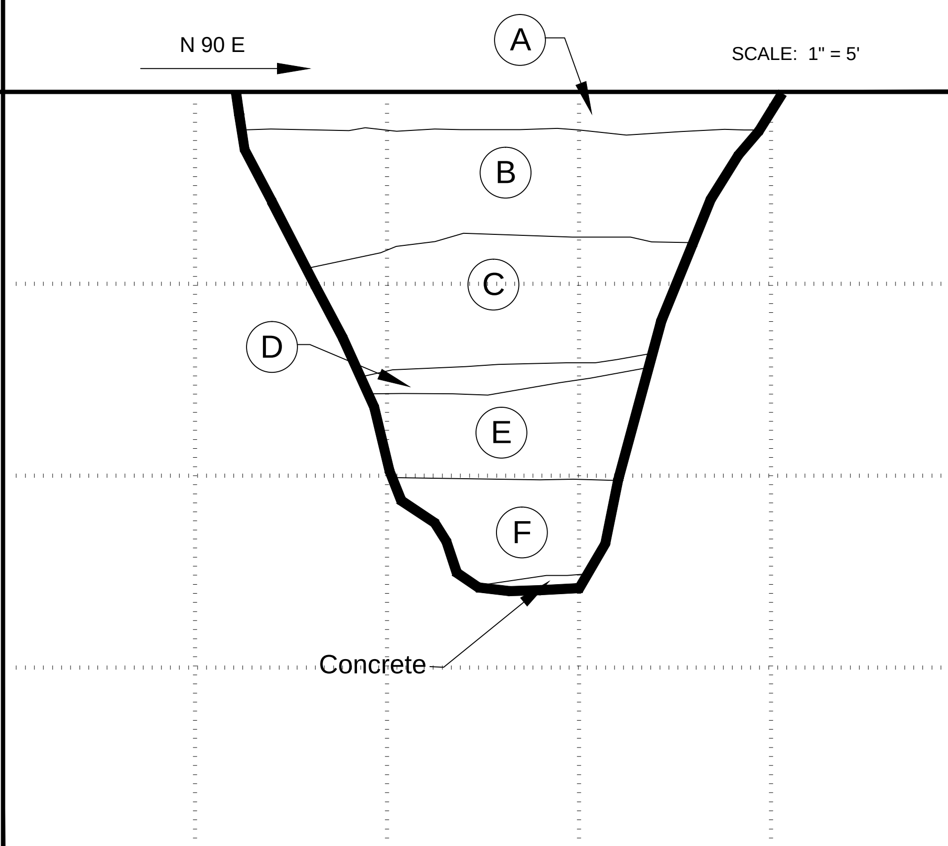
JOB NO.: 15G150-1
PROJECT: Proposed Senior Housing
LOCATION: Riverside, CA
DATE: 05-12-2015

EQUIPMENT USED: Backhoe
LOGGED BY: Daryl Kas
ORIENTATION: N 90 E
ELEVATION: 1091 feet msl

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
	b		6	A: FILL: Brown Silty fine to medium Sand, trace coarse Sand, trace fine Gravel, abundant root fibers, loose - damp
	b		2	B: FILL: Gray Brown Silty fine to coarse Sand, trace fine Gravel, asphaltic and concrete fragments, medium dense - dry to damp
5	b		3	C: FILL: Gray Brown Silty fine to medium Sand, medium dense - damp
	b		3	D: FILL: Gray to Brown fine to coarse Sand, medium dense - dry to damp
10	b		6	E: FILL: Light Gray Silty fine to medium Sand, some coarse Sand, medium dense - damp
	b		6	F: FILL: Brown Silty fine Sand, trace medium to coarse Sand, medium dense - damp
	b		6	
				Trench Terminated @ 13 feet Due to Refusal on Concrete debris
15				

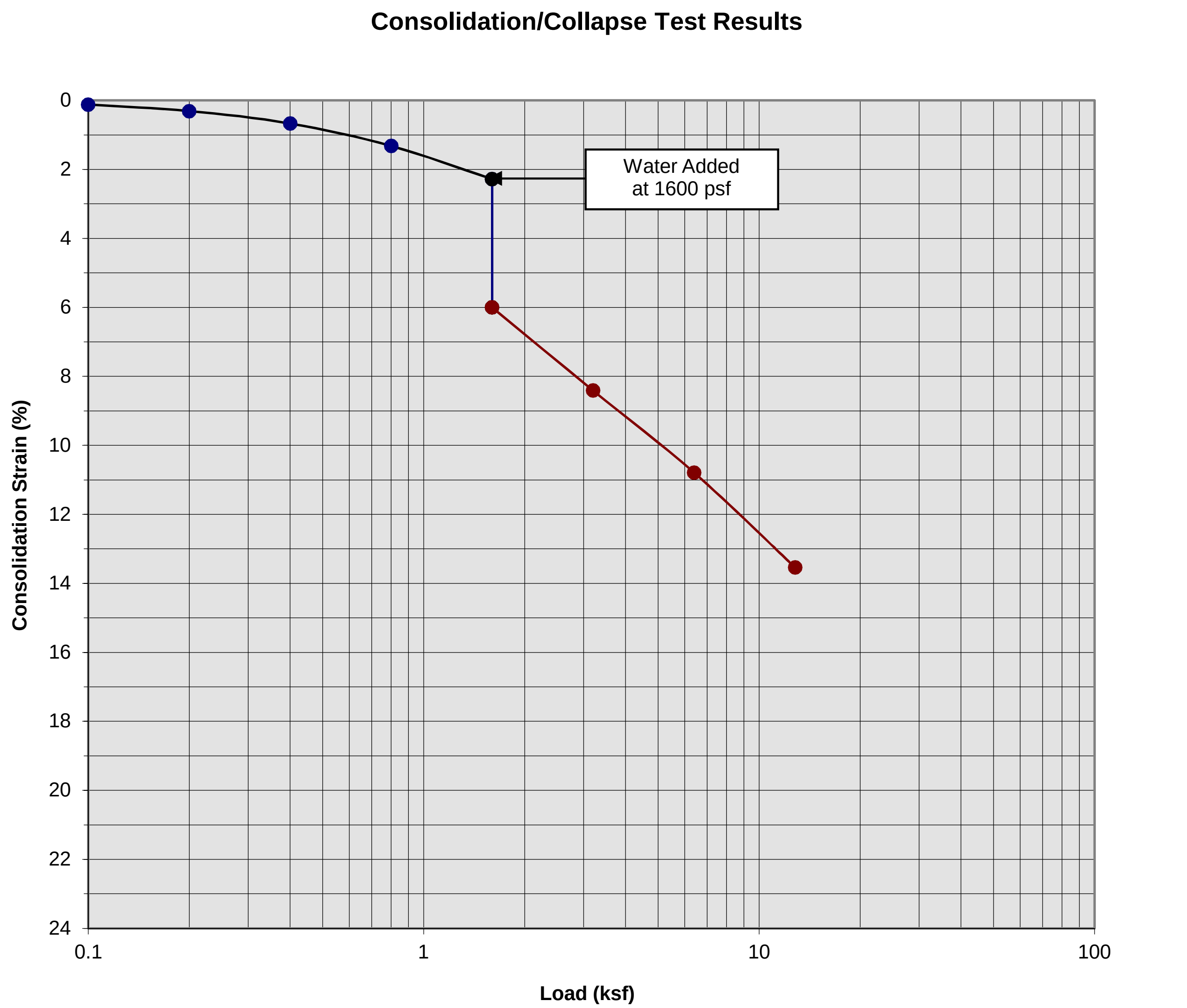
GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
b - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER
(RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-9



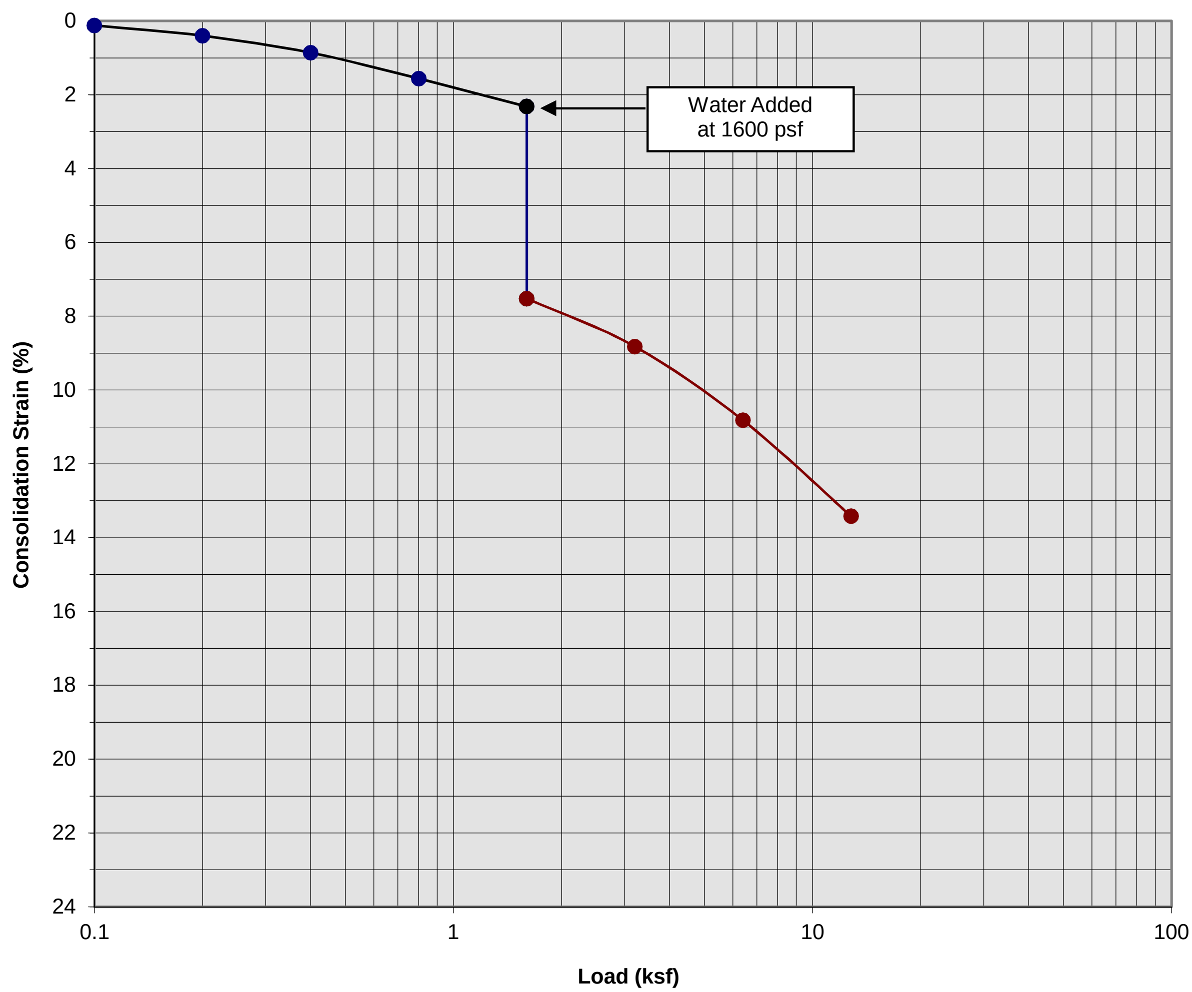
Classification: FILL: Gray Brown fine to medium Sand, trace coarse Sand

Boring Number:	B-2	Initial Moisture Content (%)	8
Sample Number:	---	Final Moisture Content (%)	15
Depth (ft)	1 to 2	Initial Dry Density (pcf)	109.2
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	125.9
Specimen Thickness (in)	1.0	Percent Collapse (%)	3.72

Oakmont Senior Housing
Riverside, California
Project No. 15G150
PLATE C- 1

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Consolidation/Collapse Test Results

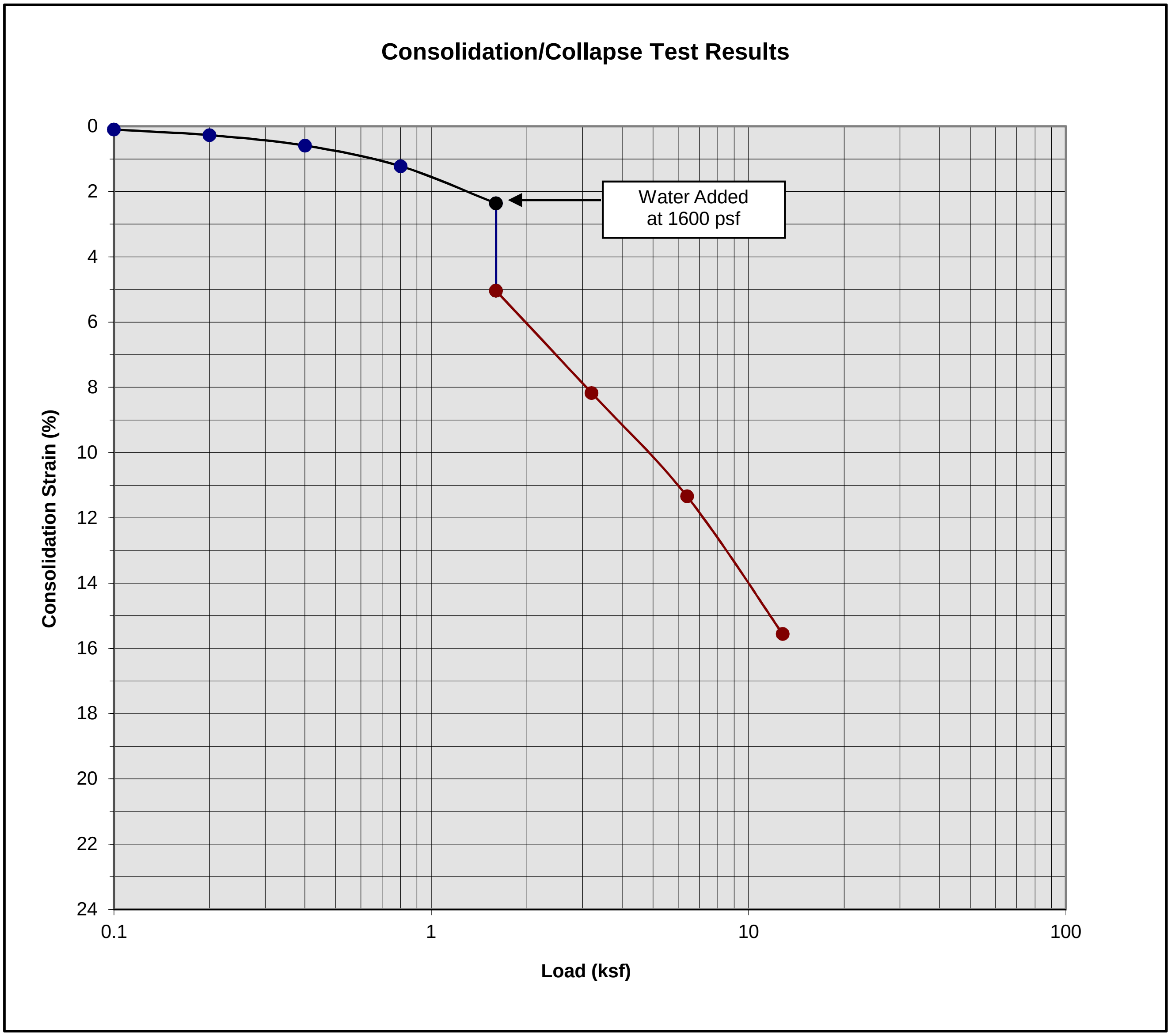


Classification: FILL: Dark Brown Silty fine Sand, trace medium Sand

Boring Number:	B-2	Initial Moisture Content (%)	8
Sample Number:	---	Final Moisture Content (%)	18
Depth (ft)	5 to 6	Initial Dry Density (pcf)	101.8
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	116.2
Specimen Thickness (in)	1.0	Percent Collapse (%)	5.20

Oakmont Senior Housing
Riverside, California
Project No. 15G150
PLATE C- 2

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL A California Corporation

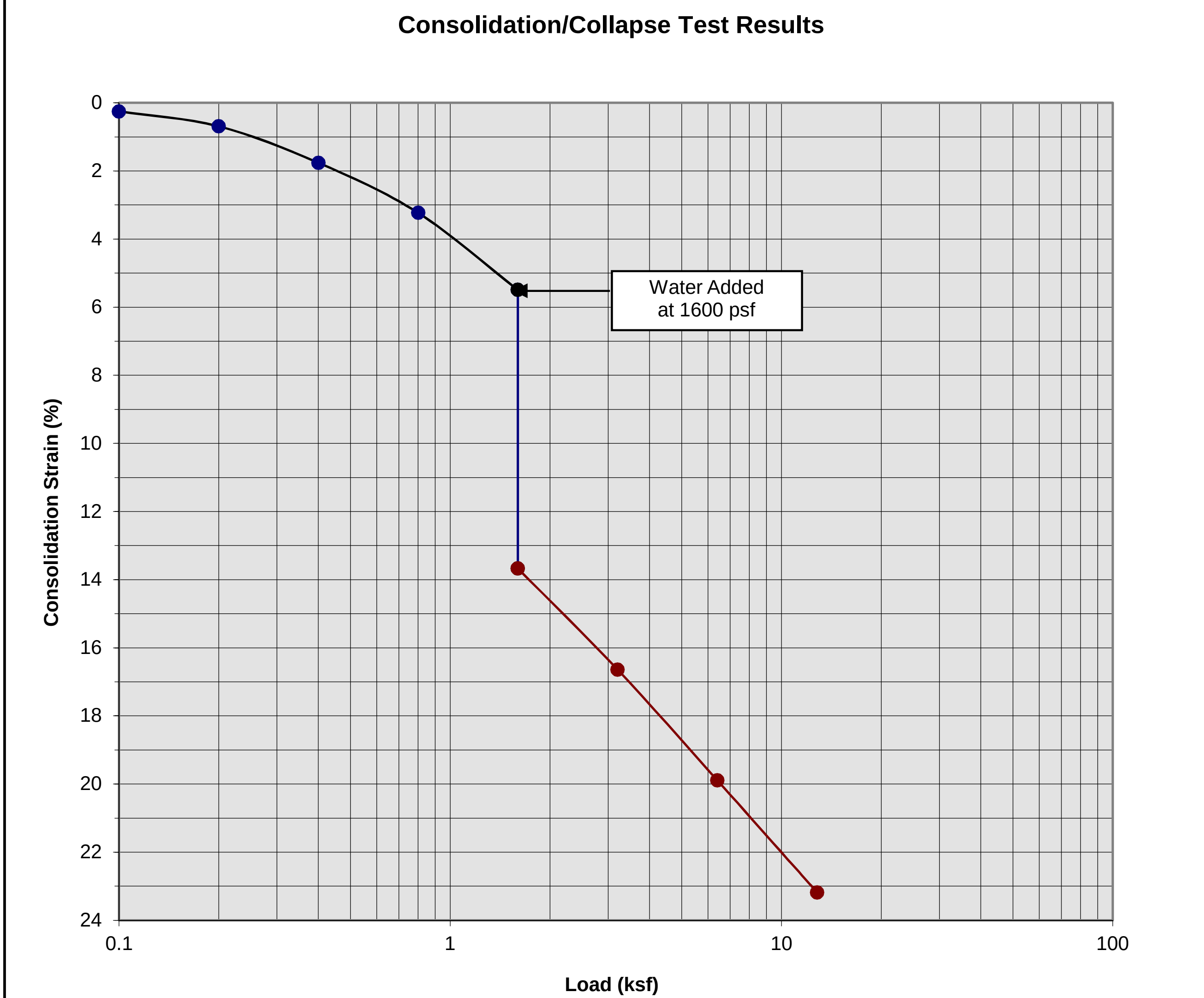


Classification: FILL: Dark Brown Silty fine Sand, trace medium Sand

Boring Number:	B-2	Initial Moisture Content (%)	10
Sample Number:	---	Final Moisture Content (%)	25
Depth (ft)	7 to 8	Initial Dry Density (pcf)	86.5
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	102.4
Specimen Thickness (in)	1.0	Percent Collapse (%)	2.68

Oakmont Senior Housing
Riverside, California
Project No. 15G150
PLATE C- 3

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

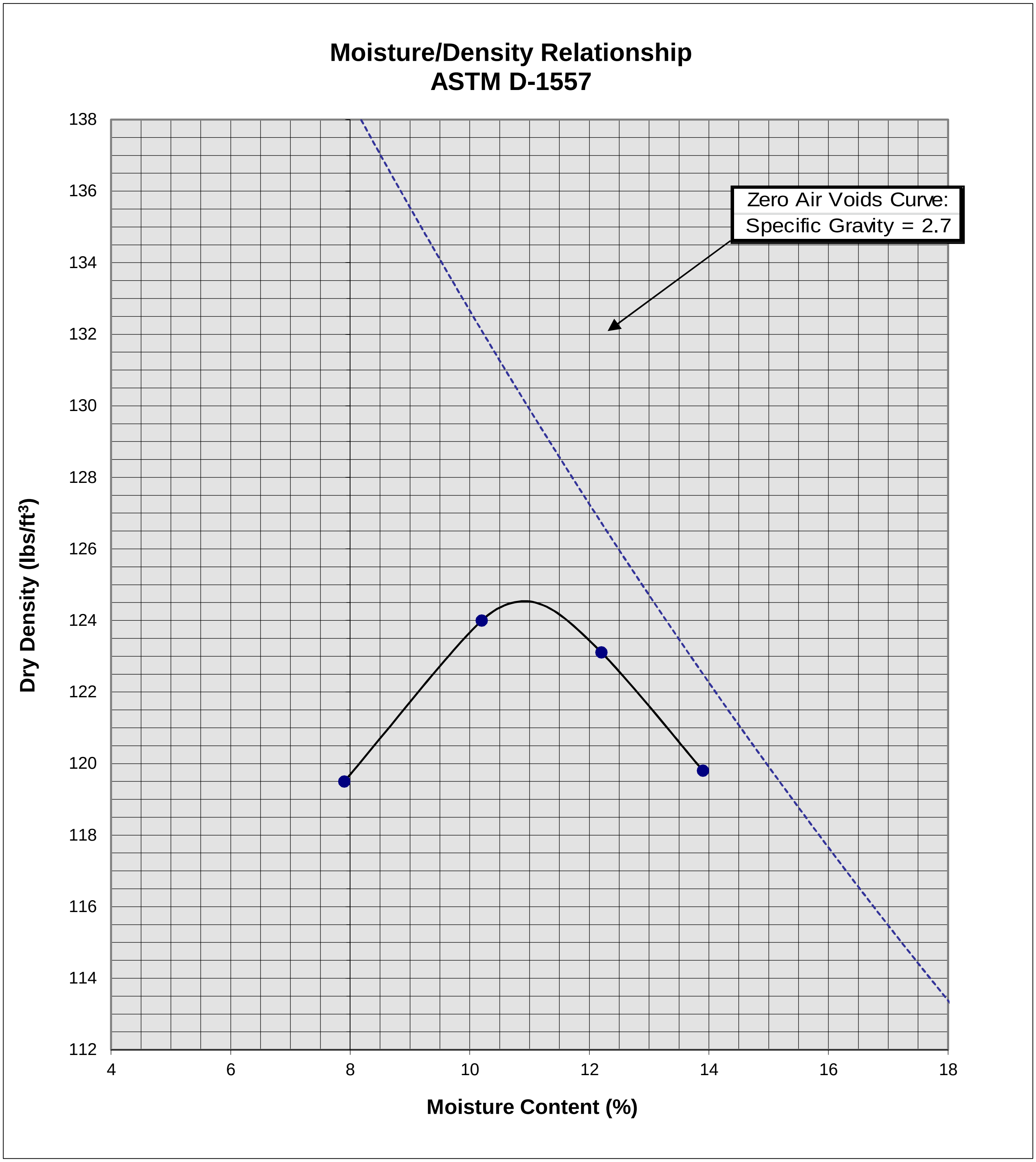


Classification: FILL: Dark Brown Silty fine Sand, trace medium Sand

Boring Number:	B-2	Initial Moisture Content (%)	27
Sample Number:	---	Final Moisture Content (%)	17
Depth (ft)	9 to 10	Initial Dry Density (pcf)	81.4
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	106.1
Specimen Thickness (in)	1.0	Percent Collapse (%)	8.18

Oakmont Senior Housing
Riverside, California
Project No. 15G150
PLATE C- 4

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

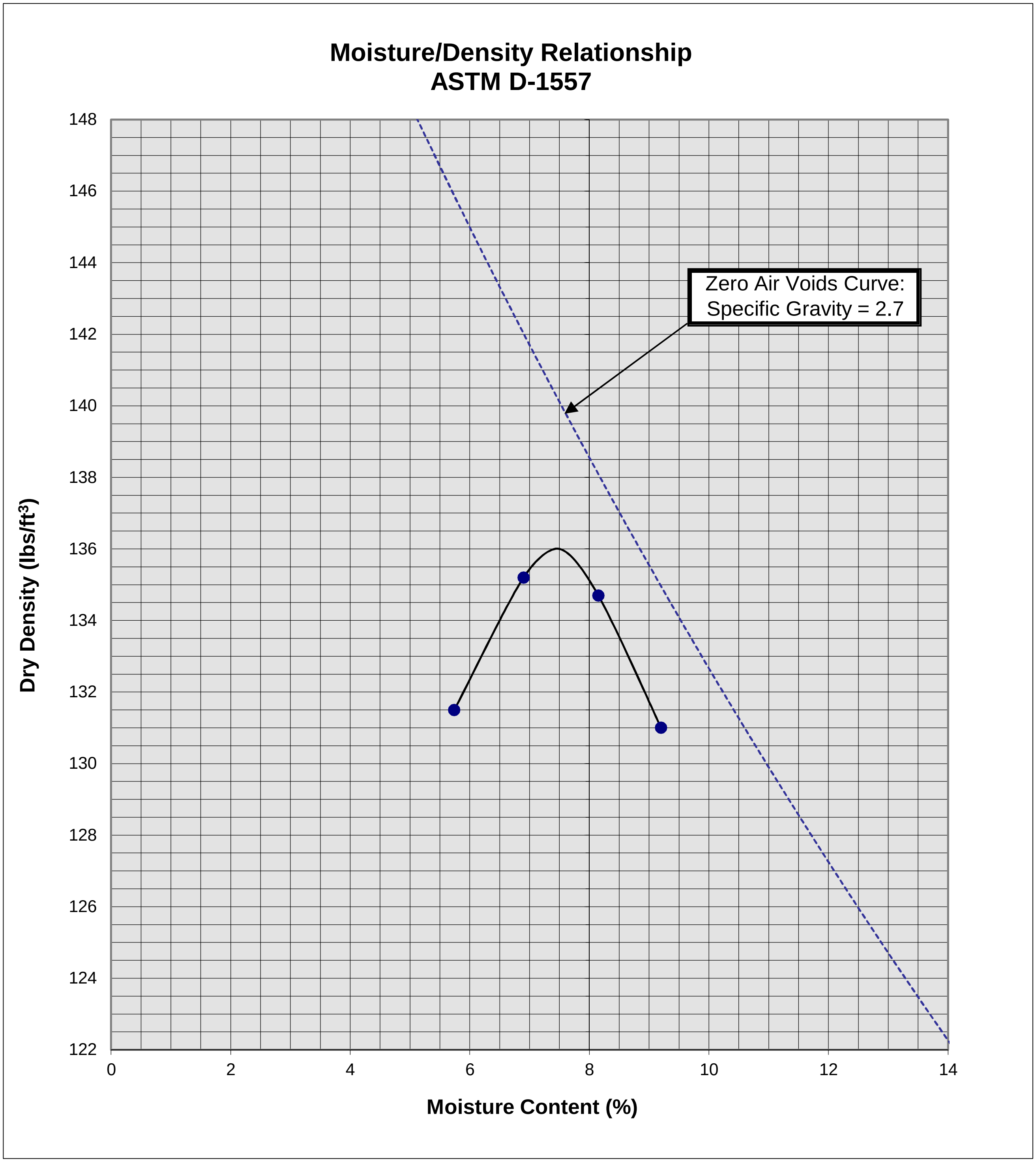


Soil ID Number		B-2 @ 0 to 5'
Optimum Moisture (%)		11
Maximum Dry Density (pcf)		124
Soil Classification	Gray Brown to Dark Brown Silty fine Sand, trace fine Gravel	

Oakmont Senior Housing
Riverside, California
Project No. 15G150

PLATE C-5

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation



Soil ID Number	B-6 @ 0 to 5'
Optimum Moisture (%)	7.5
Maximum Dry Density (pcf)	136
Soil Classification	Brown Silty fine Sand, trace Gravel

Oakmont Senior Housing
Riverside, California
Project No. 15G150
PLATE C-6

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation