Draft Initial Study and Proposed Mitigated Negative Declaration

July 2020

Hunter Substation Replacement Project

Prepared For:

City of Riverside Public Utilities Department
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MITIGATED NEGATIVE DECLARATION

Project Name: Hunter Substation Replacement Project

Project Location. The existing 69/12 kilovolt (kV) Hunter Electrical Substation (existing Hunter Substation) is located at 1731 Marlborough Avenue, near the intersection of Marlborough Avenue and Chicago Avenue, south of Columbia Avenue in the City of Riverside, California (refer to Figure 1, Project Vicinity Map and Figure 2, Project Location Map). The Project includes the existing substation site (APN 210-060-049), as well as the adjacent parcel (APN 210-060-033), which is also owned by the City of Riverside. The existing substation and the new substation areas (collectively referred to as the "Project Site") comprise approximately 2.5-acres of land located within an urban area.

Project Description: The Project includes the replacement of the existing Hunter 69/12kV/4kV Electrical Substation with a new 69/12kV substation which will be located immediately adjacent to the existing substation. The existing Hunter Substation is a 69/12kV/4kV distribution, air insulated substation (AIS) approximately one acre in size (fenced area). The existing Hunter Substation was constructed in approximately 1960 and has been operated continuously since then by Riverside Public Utilities (RPU). RPU has made upgrades and incrementally increased the capacity of the substation since its initial construction.

Access to the existing Hunter Substation is from the east (access directly to Chicago Avenue) and from the north where a substation gate is located at the end of an approximately 150-foot paved driveway that leads from Chicago Avenue to the gate that served as the pervious access to the eastern parcel. Access to the new substation will be from the same two entrances from Chicago Avenue.

The proposed new Hunter 69/12kV distribution substation will be constructed on an undeveloped parcel immediately adjacent to the existing Hunter Substation and will also be an AIS with four bays and a breaker-and-a-half configuration. A new storage building will be constructed where the existing substation equipment is located that will be utilized for the storage of substation and other parts and equipment for utilization by RPU for operation and maintenance of the RPU electrical system.

Findings: It is hereby determined that, based on the information contained in the attached Initial Study, the project would not have a significant adverse effect on the environment. There are mitigation measures included with the Initial study that are necessary to avoid the potentially significant environmental impacts. Riverside Public Utilities has hereby agreed to implement each of the mitigation measures, which would be adopted as part of the Mitigation Monitoring and Reporting Program.

_____ _____

Fady Megala, Principal Engineer Date

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APPENDICES

1.0 Introduction

This document includes an analysis of all California Environmental Quality Act (CEQA) Initial Study (IS) sections (CEQA Guidelines, Appendix G), based on the current Detailed CEQA Project Description (see Appendix A). Evaluation of potential impacts for the topics included herein are based on existing conditions and the project location (i.e., footprint).

1.1 Proposed Project Overview

The Proposed Project will replace the existing 69/12kV/4kV Hunter Substation with a new 69/12kV electrical substation (new or proposed Hunter Substation) to be located on an immediately adjacent vacant parcel (refer to Figure 1, Project Overview Map). Specifically, the Proposed Project will include the following main components:

1. Construction of a new 69/12kV Hunter Substation on previously disturbed land adjacent to and west of the existing Hunter substation;
2. Loop-in (i.e., connection to) four existing 69kV sub-transmission lines and 20 existing 12kV distribution lines to the new substation;
3. Decommissioning and removal of the existing substation; and
4. Construction and operation of a warehouse facility that will store equipment and materials used by RPU for operation and maintenance of the RPU electrical grid system.

Appendix A, CEQA Project Description, contains detailed descriptions of the Project, including purpose and need, design, construction, and operation.

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\\apaenvfile01\gis1-PROJECTS\City_of_Riverside\CA313254_HunterSubstation\Figure 3 Project Overview Map.mxd saved: 9/8/2019 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Esri/DigitalGlobe "World Imagery" Online Service Layer, 2018. 9/8/2019

- Overall Project Boundary
- Parcel Boundary
- Existing Hunter Substation Footprint
- Water Canal Easement

Hunter Substation Replacement Project
Project Overview Map
Figure 1

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1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100 Feet

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1.2 Initial Study Sections

The following resource topics are covered within this document:

- Aesthetics
- Agriculture and Forestry
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral Resources
- Noise
- Population & Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfires
- Mandatory Findings of Significance

2.0 Supplemental Information

This section provides supporting information that will be included with the Public Draft Initial Study and Proposed Mitigated Negative Declaration.

2.1 Documents Used and/or Referenced in this Review

As part of the environmental evaluation contained within this document, numerous technical and general information reports, plans, maps, and other documents were reviewed. The relevant referenced documents are listed at the beginning of each impact discussion, and the full list of references is contained in Section 4. The key documents used to support the analysis herein are as follows:

a. City of Riverside General Plan 2025
b. General Plan 2025 Final Programmatic EIR
c. Hunter Substation Geotechnical Investigation Report (TRC, 2019)
d. Hunter Substation Phase I Cultural Resources Assessment (VCS Environmental, 2020)
e. Phase I ESA (LOR Geotechnical Group, 2018)
f. Hunter Substation Noise Technical Report (ESA, 2020)
g. Hunter Substation Trip Generation Memo (Kittelson & Associates, 2020)

2.2 Acronyms and Abbreviations

The following acronyms and abbreviations are used within the document.

AICUZ - Air Installation Compatible Use Zone Study
AQMP - Air Quality Management Plan
ARB - Air Resources Board
ASTM- American Society of Testing and Materials
AUSD - Alvord Unified School District
BMP- Best Management Practice
BSA - Biological Study Area
CARB - California Air Resources Board
CDG - Citywide Design Guidelines
CDFW - California Department of Fish and Wildlife
CEQA - California Environmental Quality Act
CIWMP - Countywide Integrated Waste Management Plan
CMP - Congestion Management Plan
CNDDB - California Natural Diversity Database
CNPS - California Native Plant Society
CO - Carbon monoxide
DPM - Diesel particulate matter

EMWD -	Eastern Municipal Water District
EOP -	Emergency Operations Plan
ESA-	Environmental Site Assessment
FEMA -	Federal Emergency Management Agency
FHSZs -	Fire hazard severity zones
FMMP -	Farmland Mapping and Monitoring Program
FPEIR -	GP 2025 Final Programmatic Environmental Impact Report
GIS -	Geographic Information System
GP 2025 -	General Plan 2025
HCP -	Habitat Conservation Plan
LHMP -	Local Hazard Mitigation Plan
LRAs -	Local Responsibility Areas
LST -	Localized Significance Thresholds
MARB/MIP -	March Air Reserve Base/March Inland Port
MBTA -	Migratory Bird Treaty Act
MJPA-JLUS -	March Joint Powers Authority - Joint Land Use Study
MM -	Mitigation Measure
MND-	Mitigated Negative Declaration
MSHCP -	Multiple-Species Habitat Conservation Plan
MVUSD -	Moreno Valley Unified School District
NCCP -	Natural Communities Conservation Plan
NOx	Oxides of nitrogen
OEHHA -	Office of Environmental Health and Hazard Assessment
OEM -	Office of Emergency Services
RCALUC -	Riverside County Airport Land Use Commission
RCALUCP -	Riverside County Airport Land Use Compatibility Plan
RCP -	Regional Comprehensive Plan
RCTC -	Riverside County Transportation Commission
RMC -	Riverside Municipal Code
RPD -	Riverside Police Department
RPU -	Riverside Public Utilities
RPW -	Riverside Public Works
RTP -	Regional Transportation Plan
RUSD -	Riverside Unified School District
SCAG -	Southern California Association of Governments
SCAQMD -	South Coast Air Quality Management District
SKR	Stephens' Kangaroo Rat
SRA -	Source receptor area
SRAs -	State Responsibility Areas
SWPPP -	Storm Water Pollution Prevention Plan
TAC -	Toxic air contaminant

USC - United States Code
USEPA - U.S. Environmental Protection Agency
USFWS - U.S. Fish and Wildlife Service
USGS - United States Geologic Survey
VMT - Vehicle Miles Traveled
WMWD - Western Municipal Water District
WQMP - Water Quality Management Plan

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2.3 Evaluation of Environmental Impacts

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources of lead agency cited in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures (MM) has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration - Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used. Identify and state where they are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measure which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) The explanation of each issue should identify:
   a. the significance criteria or threshold, if any, used to evaluate each question; and
   b. the mitigation measure identified, if any, to reduce the impact to less than significance.

3.0 Initial Study Sections

The impact analysis for each section is included below, within separate headings by topic/ resource area, consistent with current CEQA Guidelines. Existing conditions information, where applicable, is provided first, and impact discussions are provided within a tabular format, consistent with the City of Riverside CEQA Initial Study guidance.

3.1 Project Design Features and Ordinary Construction/Operating Restrictions

The Project includes design features and ordinary construction and operating restrictions (Design Features) that avoid and minimize environmental impacts. The design features and ordinary construction and operating restrictions incorporated into the Project include measures that are routinely implemented by RPU on projects that involve ground disturbance. Many of these features and restrictions relate to compliance with applicable environmental laws and regulations. Consistent with its existing operations and maintenance practices, RPU will implement these Design Features as appropriate during construction, operation, and maintenance to avoid and minimize potential environmental impacts. These Design Features differ from CEQA mitigation measures because they would be implemented regardless of CEQA compliance.

Where Design Features help to reduce potential impacts to a less than significant level, they are denoted by topic area and numbered in order of reference, for example, Design Feature BIO-1.

3.2 Aesthetics

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
a. Response: **No Impact.** The new Hunter Substation would be constructed on the parcel adjacent to the existing substation within an urbanized and developed part of the City with very little scenic resources. There are no designated scenic vistas in the Project study area. There would be no substantial adverse effect on a scenic vista. ***(Sources: General Plan 2025 FPEIR, Section 5.1.6 – Aesthetics; General Plan 2025, Land Use and Urban Design Element)***				
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
b. Response: **Less than Significant Impact.** The Project site is not visible from a state designated or eligible scenic highway. There are no rock outcroppings in the Proposed Project footprint or surrounding area. The City of Riverside does classify Marlborough Avenue as a Special Boulevard (FPEIR, Figure 5.1-1). However, the segment of Marlborough Avenue that is designated is east of Chicago Avenue, and starts approximately 350 feet southeast of the Project Site. Any changes to the Project Site as part of construction and operation of the Project will not have a significant effect on this section of Marlborough Avenue because the site visibility from this segment of Marlborough Avenue is very limited. Impacts will be less than significant.				

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Some landscape trees will be replaced on the east side of the perimeter security wall, adjacent to Chicago Avenue (refer to Appendix A). The replacement of these landscape trees will not have a substantial adverse effect on scenic resources. Impacts would be less than significant. ***(Sources: General Plan 2025 FPEIR, Section 5.1.6 – Aesthetics; General Plan 2025, Land Use and Urban Design Element)***				
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

c. Response:

Less than Significant Impact. The Project Site is located within an urbanized area within the City of Riverside, surrounded by industrial, commercial, and residential land uses. Public views of the Project Site are looking east from Milton Street and Blenheim Street, looking west from Chicago Avenue, and looking North from Marlborough Avenue (refer to Figure 1).

Construction Impacts
The primary impacts to the visual character would occur during the construction phase. Construction is planned to last approximately 17 months. While construction activities may be visible from a limited number of public vantage points, the impact to visual character would be less than significant given the urbanized nature of the Project area, including the existing Hunter Substation and industrial land uses to the north, south, and east. In addition, the new substation perimeter wall would screen the majority of construction activities from public viewpoints.

Operation and Maintenance Impacts
Currently the Proposed Project contains plans to add a minimum 10-foot concrete masonry perimeter security wall around the substation site. This perimeter security wall may be raised to up to 14 feet for increased security. A taller perimeter security wall would also further reduce views of equipment within the substation footprint. A chain-link fence closes off the south side of the existing substation parcel. This fencing would be replaced as part of construction of the perimeter security wall.

The existing landscaping area located adjacent to the existing east perimeter security wall would remain in place. However, the taller trees would be replaced with trees of a lower height for security reasons. Attachment A to the Detailed Project Description contains the Landscaping Concept for the Project, including surface treatments, security wall treatments, and landscaping.

Decorative rock would be placed between the new perimeter security wall and the property line on the north and west sides of the new substation. Viewpoints from the west side of the new substation are already obstructed by thick amounts of vegetation. Artificial ivy would be placed on the perimeter security wall on the west side as well to assist in maintaining the vegetative nature of these viewpoints.

The new Hunter Substation will be unmanned, and as a result of the new parts and equipment will require less maintenance compared to the existing substation. Routine maintenance trips would be approximately six per year by a two- to four-person crew. Routine maintenance by one or two workers will occur on a weekly basis. One annual major maintenance inspection, lasting approximately one week, will be conducted by a 10-personnel crew. Maintenance for vegetation clearing will occur on an as-needed basis for safety, access, and aesthetics. Vegetation clearing will involve one or two small maintenance vehicles and one or more

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

employees to clear and trim the vegetation. One pickup truck visiting the site a few times per year for switching would be needed.

The Project Site is located within an industrial zoned area, with industrial zoning and land uses surrounding the project to the north, south, and east. Use of the project site for an electrical substation is consistent with the current use, and with industrial zoning in general. The Project would not conflict with applicable zoning and other regulations governing scenic quality. The City of Riverside Planning and Building departments will review Project Plans to ensure compliance with applicable City codes. Therefore, impacts to the existing visual character would be less than significant.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

d. Response:

Less than Significant Impact. Nighttime activities are not anticipated to be required during Project construction. However, if nighttime construction is ultimately required for unforeseen reasons, construction crews would implement Project Design Feature AES-1 (see below), which would minimize the potential affects from construction lighting on surrounding land uses. Typical construction equipment and methods, as described in the Detailed Project Description, would not result in substantial light or glare during normal, daytime construction hours. Therefore, visual impacts due to light and glare from construction activities would be less than significant.

Lighting and glare from the operation of the new substation will be similar to that of the existing substation. The new substation will use galvanized steel (for what equipment/surfaces?), which reduces glare. Existing areas surrounding the site, such as Chicago Avenue, use lighting during nighttime hours. Lighting associated with the new substation will be similar in affect to these surrounding sources of light. In addition, the new substation perimeter security wall will minimize the light and glare that is visible from surrounding land uses, including the residential land uses located to the west. This represents a decrease in light and glare impacts on the adjacent residents, as the existing chain-link fence does little to block light and glare.

The new storage facility, located on the eastern parcel, would only be visible from the east and south, and would not create a source of glare. All facility lighting will be approved by the City of Riverside and will comply with the City's nighttime lighting requirements. Therefore, operation of the new storage facility would not generate a new source of substantial light or glare and impacts would be less than significant.

AES-1: If nighttime work is required, construction crews shall angle all required lighting down and away from adjacent land uses, especially the residential land uses located west of the Project Site (refer to Figure 1).

3.3 Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board (CARB).

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

a. Response:

No Impact. Per the FMMP (2016) of the California Resources Agency, the Project is located within Urban and Built-up land. A review of Figure OS-2 - Agricultural Suitability of the General Plan 2025 also shows that the Project Site is not designated as, and is not adjacent to, or in proximity of, any land classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the Project will have no impact directly, indirectly, or cumulatively to agricultural uses.

(Sources: General Plan 2025 - Figure OS-2 - Agricultural Suitability; FMMP [2016])

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

b. Response:

No Impact. A review of Figure OS-3– Williamson Act Preserves of the General Plan 2025 reveals that the Project Site is not located within an area that is affected by a Williamson Act Preserve or under a Williamson Act Contract. Moreover, the Project Site is not zoned for agricultural use and is not next to land zoned for agricultural use; therefore, the Project will have no impact directly, indirectly, or cumulatively.

(Source: General Plan 2025 - Figure OS-3 - Williamson Act Preserves)

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	☐	☐	☐	☒

c. Response:

No Impact. The Project Site is zoned as R106, General Industrial Zone, and not for forest use. Therefore, the existing substation and the vacant parcel would not result in rezoning of the property intended for forest use. Therefore, no impacts will occur from this Project directly, indirectly, or cumulatively.

(Sources: General Plan 2025 - Figure OS-2 - Agricultural Suitability; Title 19 - Zoning Code)

d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

d. Response:

No impact. As discussed under responses a) through c) above, the Project is located in an urbanized area of the City, designated as Urban and Build-up lands on the Farmlands Mapping and Monitoring Program, and zoned as Industrial. Therefore, there are no agricultural lands or forest lands on the Project Site. As such, the Project would not result in the loss of forest land or the conversion of forest land to non-forest use.

(Sources: General Plan 2025 - Figure OS-2 - Agricultural Suitability; FMMP [2016])

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

e. Response:

No impact. As discussed under responses a) through c) above, the Project is located in an urbanized area of the City, designated as Urban and Build-up lands on the Farmlands Mapping and Monitoring Program, and zoned as Industrial. Therefore, there are no agricultural lands or forest lands on the Project Site. As such, the Project would not result in conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use.

(Sources: General Plan 2025 - Figure OS-2 - Agricultural Suitability; FMMP [2016])

3.4 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

a. Response:

Less than Significant Impact. The proposed Project is located within the South Coast Air Basin (SCAB), a region that currently exceeds, and is in violation of, state and national ambient air quality standards for ozone (O3) and particulate matter (PM) less than 10 (federal only) and 2.5 microns in diameter (PM10 and PM2.5). The South Coast Air Quality Management District (SCAQMD) regulates air quality emissions within the SCAB and has prepared a series of Air Quality Management Plans (AQMP), the most recent of which was developed in 2016 and adopted by the Governing Board of the SCAQMD on March 3, 2017 (2016 AQMP). The 2016 AQMP is designed to meet applicable federal and state requirements, including attainment of ambient air quality standards. To assess the impacts of project-related construction and operational emissions, the SCAQMD has established air quality significance thresholds. For a project to be consistent with the 2016 AQMP, emissions should not exceed SCAQMD's significance thresholds and the project should not conflict with or exceed future emission-related assumptions within the 2016 AQMP.

As described below in Response b), emissions from the proposed Project would only result in temporary, less than significant impacts to air quality. Construction and operational emissions generated by the proposed Project will not exceed SCAQMD significance thresholds. The proposed Project consists of the replacement of an existing electrical substation and construction of a new warehouse adjacent to the substation. The warehouse will be used to store equipment and materials for operation and maintenance of the electrical grid system. Therefore, the proposed Project is in line with regional growth expectations and does not conflict with the development outlined in the 2016 AQMP. SCAQMD has also adopted Rule 403 for the purpose of reducing the amount of fugitive dust generated as a result of human activities. The Project will comply with Rule 403, which requires the implementation of best available dust control measures during active operations capable of generating fugitive dust. As such, the proposed Project would not conflict with or obstruct implementation of the 2016 AQMP or Rule 403.

b. Result in 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?	☐	☐	☒	☐

b. Response:

Less than Significant Impact. The SCAB currently exceeds and is in violation of state and national ambient air quality standards for O3, PM10, and PM2.5. The SCAQMD has established regional significance thresholds to help assess the impacts of Project-related construction and operational emissions. Temporary construction emissions would result from the use of heavy equipment exhaust, equipment and material deliveries, construction-related trips by workers, and fugitive dust generation from excavation and grading activities. SCAQMD regional construction emission significance thresholds and estimated construction emissions for the proposed Project are provided in Table 1 below.

The Project construction emissions are calculated using the latest version of the California Emissions Estimator Model (CalEEMod version 2016.3.2 – refer to Appendix B). The construction emissions are conservatively estimated assuming most pieces of equipment would operate for 10 to 12 hours per day. A more complete description of Project emissions modeling input parameters is provided in Appendix B.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 1: Estimated Maximum Daily Construction Emissions and Regional Significance Criteria

Criteria Pollutant	SCAQMD Regional Significance Threshold for Construction (lbs/day)	Estimated Maximum Daily Project Construction Emissions (lbs/day)
Nitrogen Oxides	100	67.0
Reactive Organic Gases	75	5.54
Sulfur Dioxide	150	0.09
Carbon Monoxide	550	39.0
PM_{10}	150	3.33
$PM_{2.5}$	55	2.53
*Lead	3	<3

*CalEEMod does not calculate lead emissions. Using the SCAQMD lead emission factor for diesel of 0.0083 lb/gal it was calculated that 361 gal/day of fuel would need to be combusted to exceed this threshold. Assuming a maximum fuel consumption of between 1 and 20 gallons per hour per piece of equipment (Hawthorne Cat, 2014), this Project would not consume diesel fuel in excess of the 361 gal/day and would therefore not exceed the significance threshold.

As shown in Table 1 above, the temporary construction emissions from the proposed Project would be less than the regional significance thresholds for construction. In addition, compliance with Rule 403 for the control of fugitive dust would ensure that the proposed Project would not violate fugitive dust standards. Operation and maintenance of the new Hunter Substation is expected to result in infrequent and minor air emissions associated with trucks used for inspection or maintenance purposes. These operational emissions are expected to be consistent with the emissions generated from the current maintenance of the existing Hunter Substation. Therefore, the Project's net increase in criteria pollutant emissions for which the Project region is non-attainment is not cumulatively considerable and impacts are considered less than significant.

c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

c. Response:

Less than Significant Impact. Temporary construction emissions would result from heavy equipment fuel combustion, construction-related vehicle trips, and fugitive dust generation. The Project site is a property currently developed as a substation and an adjacent undeveloped property. Surrounding the Project site are city streets, a stormwater canal, and residential, commercial, and industrial properties. For air quality impact analysis, a sensitive receptor is a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain on a 24-hour a day basis. The closest existing sensitive receptors are single-family residences located across the stormwater drainage channel approximately 50 feet west of the Project site.

The SCAQMD has developed suggested Localized Significance Thresholds (LSTs) to assist lead agencies in assessing potential air quality impacts to sensitive receptors near emission sources. LSTs are applicable to oxides of nitrogen (NOx), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM10), and particulates less than 2.5 microns in aerodynamic diameter (PM2.5). According to the SCAQMD, the LSTs represent the maximum emissions from a Project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard. LSTs are also based on the ambient concentrations of the specific pollutants within each source receptor area (SRA) and the distance to the nearest sensitive receptor.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

The recommended LSTs applicable to the Project were determined using the *SCAQMD LST Methodology Guidance Document, Appendix C – Mass Rate LST Look-up Tables C-1 through C-6*. Because LSTs are dependent on distance between the emission source and receptor, the emissions modeling in Appendix B includes a two-step analysis to ensure that all sensitive receptors are appropriately considered. First, the overall project construction emissions are compared to the LSTs for a 2-acre site and a 25-meter separation distance. Although the nearest receptor is approximately 15 meters from the Project site boundary, the SCAQMD LST guidance recommends using the 25-meter LSTs for projects with receptors closer than 25 meters. As shown in the table below, overall project emissions would be less than the LSTs for any sensitive receptor located 25 meters or more from the Project.

Table 2: Estimated Maximum Daily Construction Emissions and Localized Significance Criteria for 25 Meter Setback

Criteria Pollutant	SCAQMD Localized Significance Threshold for 25 Meter Setback* (lbs/day)	Estimated Maximum Daily Project Construction Emissions (lbs/day)
Nitrogen Oxides	170	67.0
Carbon Monoxide	883	39.0
PM_{10} (Total)	7	3.33
$PM_{2.5}$ (Total)	4	2.53

* Localized Significance Thresholds for construction in source receptor area (SRA) 23 – Metropolitan Riverside County

Construction activities would also result in short-term emissions of diesel particulate matter (DPM). DPM is recognized as a toxic air contaminant (TAC) by the Office of Environmental Health and Hazard Assessment (OEHHA). According to OEHHA guidance, human health risk from exposure to TACs such as DPM are based on both the concentration of the TAC and the duration over which exposure occurs. Based on the size of the Project, the limited number of off-road diesel equipment being used at the same time, and the relatively short construction period (17 months), and reductions in DPM emissions due to the use of newer construction equipment as required by U.S. Environmental Protection Agency (USEPA) and CARB regulations, construction emissions would not expose sensitive receptors to substantial emissions of DPM. Therefore, the impact of the Project to sensitive receptors would be less than significant.

Based on the modeling results summarized in the above tables and included in Appendix B, Project construction emissions would not exceed any SCAQMD localized or regional significance threshold. Therefore, the impact to sensitive receptors would be less than significant.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

d. Response:

Less than Significant impact. The Project site is currently developed as a substation and an adjacent undeveloped property. Surrounding the Project site are city streets, a stormwater canal, and residential, commercial, and industrial properties. The Project would not produce other emissions, such as those leading to odors, during construction or operation with the exception of the potential for localized odors from internal combustion engine exhaust during construction. The generation of any odors would be localized and of short duration and, therefore, not considered a significant impact.

3.5 Biological Resources

3.5.1 Existing Setting

The information in this section is based on the field survey conducted on July 19, 2019, and a review of several database sources and reports. The review included database searches for plant and animal special-status species and/or other special habitats having the potential to occur in the Biological Study Area (BSA), including a California Natural Diversity Database (CNDDB) report (2019), California Native Plant Society (CNPS) Rare and Endangered Plant Inventory results (CNPS, 2019), and an Official List of Species from the U.S. Fish and Wildlife Service (USFWS, 2019). The database searches identified a total of nine federally- and/or state-listed plant species, and seven federally and/or state-listed animal species, and four species considered sensitive or candidate by the USFWS, California Department of Fish and Wildlife (CDFW), or CNPS, which are either known to occur or have potential to occur in the region.

These species include federally- and state-listed western marsh sandwort (*Arenaria paludicola*), salt marsh bird's beak (*Chloropyron maritimum*), Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*), and yellow-billed cuckoo (*Coccyzus americanus occidentalis*); federally-listed plants: San Diego ambrosia (*Ambrosia pumila*), Santa Ana river wooly-star (*Eriastrum densifolium ssp. Sanctorum*), thread-leaved brodiaea (*Brodiaea filifolia*), spreading navarretia (*Navarretia fossalis*), Nevin's barberry (*Berberis nevinii*), and federally-listed wildlife Santa Ana sucker (*Catostomus santaanaae*), vernal pool fairy shrimp (*Branchinecta lynchi*), Riverside fairy shrimp (*Catostomus santaanaae*), coastal California gnatcatcher (*Polioptila californica californica*), least bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), Stephens' kangaroo rat (*Dipodomys stephensi*); and state-listed California black rail (*Laterallus jamaicensis coturniculus*), and State Species of Concern and/or Watch List California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythrus*), red-diamond rattlesnake (C*rotalus rubber rubber*), and coast horned lizard (*Phrynosoma coronatum blainvillei*).

For the purpose of the biological analysis, a BSA was established. The BSA encompasses approximately 2.5 acres and all areas subject to temporary and permanent impacts that would occur from the Proposed Project and an approximately 100-foot buffer.

Results
The BSA includes three habitat types and one land use type (described below). These include barren, ornamental, concrete-lined channel, and developed.

Barren
The west portion of the Site is devoid of vegetation and consists of barren land. The soils are highly compacted. Some small vegetation samplings were observed (*Arundo donax, Helianthus annuus, Hordeum, Bromus madritensis rubens, Lactuca serriola, Nicotiana glauca, and Euphorbia maculate*). According to personal communication with the RPU staff (1) (Chris Summerfold, City QEW), the Site was cleared of vegetation about 2 to 3 weeks before the Site visit in July 2019.

Ornamental
Ornamental vegetation occurs in the form of a narrow sliver of plantings and shrubs located alongside the northern and eastern Site boundary. This vegetation consists of landscaped ornamental trees and plants.

Lined Channel
The Riverside Canal owned by the Riverside County Flood Control District runs to the west of the Site boundary. The canal is a manmade trapezoidal concrete channel that conveys flow to Temescal Wash, which ultimately flows to the Santa Ana River. During the Site visit, water was present in the canal; no vegetation was observed.

Developed
A developed area occurs on the east side of the BSA and specifically consists of the existing Hunter Substation, surrounding fence, paved and gravel road, and a gravel site.

Special-Status Plant Species
None of the plant species listed above have suitable habitat present on the Site.

Special-Status Wildlife Species
None of the federally- and state-listed wildlife species listed above have suitable habitat present on the Site. The Project Site is not within suitable habitat or designated critical unit for the Delphi Sands flower-loving fly. USFWS designated three recovery units for the fly: Colton, Jurupa, and Ontario; however, the Project is not located within any of these units.

Other Wildlife Species
Wildlife observed in the BSA included urban adapted birds: European Starling (*Sturnus vulgaris*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhyncos*), black phoebe (*Sayornis nigricans*), tree swallow (*Tachycineta bicolor*). No amphibian, reptile, or mammal species were observed; however, gopher burrows were noted onsite. Common reptile species expected to occur in the BSA include urban adapted western fence lizard (*Sceloporus occidentalis*). Common mammal species expected to occur in the BSA include urban adapted Virginia opossum (*Didelphis virginianus*), house mouse (*Mus musculus*), and common raccoon (*Procyon lotor*). Birds were observed on the utility poles. Due to the lack of trees onsite, none of these birds are expected to nest there. However, adjacent ornamental trees and shrubs may support nesting birds which are protected by the Migratory Bird Treaty Act (MBTA).

Pursuant to the MBTA of 1918, federal law prohibits the taking of migratory birds, their nests, or their eggs (16 United States Code [USC] 703). Section 3513 of the California Fish and Game Code, and AB 454 duplicate the federal protection of migratory birds and prohibits the take and

possession of any migratory nongame bird, as designated in the MBTA. Activities having the potential to disturb active bird nests (i.e., vegetation removal) are prohibited by the MBTA and AB 454. This protection generally ceases once nesting activity is completed.

3.5.2 Impacts

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐

a. Response:

Less than significant impact. As shown on Figure 4 in Attachment A, the Site is located in an urban setting. The eastern parcel is developed, and the western parcel is barren ground, devoid of vegetation. The Project is located within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The Project is located on San Timoteo Unit and is not subject to survey requirements for amphibians, burrowing owls, mammals, narrow endemic plants or other species. The Project is located outside of the MSHCP Cores and Linkages, Criteria Cell, and Subunit Areas. The Project Site is also located outside of designated Core Reserves for the Stephens' Kangaroo Rat (SKR) and is not located within designated critical habitat for Threatened and Endangered species such as Delhi Sands flower-loving fly.

The construction of the Project would consist of developing the western undeveloped parcel with a new substation, and subsequently demolishing the existing substation building structure from the eastern parcel.

The Project Site does not provide suitable habitat for the federally- and state-listed wildlife and plant species. The Site is currently devoid of vegetation and if maintained this way until construction, there will be limited potential for any species, including urban adapted avian species, to nest there. Should the vegetation onsite grow back, and construction occur during the bird nesting season, then prior to vegetation removal, a nesting bird survey would be completed to comply with the MBTA – refer to Design Feature BIO-1.

With implementation of the avoidance measures included in Design Feature BIO-1, the Project would not result in direct, indirect, or cumulative impacts to any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Less than significant impacts are expected with avoidance measures.

BIO-1 If vegetation removal is necessary, it shall be scheduled during the non-nesting bird season (i.e., September 1 to January 31) in order to ensure compliance with the MTBA. If vegetation removal activities are planned to occur during the nesting season (i.e., February 1 to August 31), a pre-construction nesting bird survey shall be required within 3 days prior to clearing of any vegetation. If any active nests are detected, the biologist shall designate a buffer area around the nest (ranging from 100 feet to 500 feet depending on the sensitivity of the species and the location of the nest), which must be protected until the chicks have fledged or until the biologist has determined that the nest has failed.

(Sources: General Plan 2025 – Figure OS-6 –SKR Core Reserve and Other Habitat Conservation Plans [HCPs], Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas; General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas,

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area, CNDDB [2019]; USFWS Delhi Sands flower-loving fly Map [2005]; USFWS IPAC [2019]; CNPS [2019])				
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒

b. Response:

No Impact. No riparian habitat is present onsite, and no other sensitive natural community is present. The Project Site is located in an urban environment, fragmented from other natural areas by development. The General Plan, Open Space, and Conservation Element identifies this area as urban and built-up, and none of Riverside's arroyos or other sensitive habitats are present on the Site, as confirmed during the site visit. The Site is not within critical habitat for any federally- and state-listed species and no sensitive natural communities or plans are established on the Site. Therefore, the Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service. No direct, indirect, or cumulative impact is expected.

(Sources: General Plan 2025 – Figure OS-6 – SKR Core Reserve and Other HCPs, Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas; General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas, Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area, CNDDB [2019]; USFWS IPAC [2019]; CNPS [2019])

c. Have a substantial adverse effect on state- or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

c. Response:

Less than Significant Impact. The USFWS National Wetlands Inventory was obtained for the Project and does not show any blue lines streams, marsh, vernal pool, riparian, or wetlands located on the Project Site. The review of the General Plan, Open Space and Conservation Element maps does not identify any drainage features onsite. The Riverside Canal, located within the BSA and adjacent to the Project Site, is identified as a blue line stream – Riverine habitat. However, the Project would not affect this canal, would not alter its course, or result in filling or alteration of the canal such that authorizations and permits from the Regulatory Agencies for this type of activity would be required. However, due to proximity of the Riverside Canal, best management practices (BMPs) would have to be implemented during construction to ensure that the Project does not result in soil erosion, sedimentation, or runoff to this drainage feature, and trigger permitting requirements. No state- and federally-protected wetlands are located on the Project Site. Therefore, implementation of the Design Feature BIO-2 is recommended. With incorporation of Design Feature BIO -2, the Project would not result in direct removal, filling, or hydrological interruption to any wetlands. Therefore, the Project would not result in direct, indirect, or cumulative impacts related to the state- or federally-protected wetlands.

BIO-2 All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive habitat areas (e.g., ruderal, developed). A construction Storm Water Pollution Prevention Plan (SWPPP) and/or Soil Erosion and Sedimentation Plan (SESP) shall be developed to

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
minimize erosion and to identify specific pollution prevention measures that shall eliminate or control potential point and non-point pollution sources onsite during the Project's construction phase and during Project operation. The SWPPP shall identify specific BMPs to be implemented during Project construction to protect water quality. In addition, the SWPPP shall contain provisions for changes to the plan such that alternative mechanisms can be used, if necessary, during Project design and/or construction to achieve the stated goals and performance standards. ***(Sources: General Plan 2025 – Figure OS-6 – SKR Core Reserve and Other HCPs, Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas; General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas, Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area, CNDDB [2019]; USFWS IPAC [2019]; CNPS [2019] National Wetlands Inventory)***				
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
d. Response: **No Impact.** No native resident or migratory fish or wildlife species, or native wildlife nursery sites occurs on the Site. The Site is surrounded by urban uses devoid of wildlife corridors. The Riverside Canal located nearby will not be directly or indirectly impacted during the Project construction, because the Project would incorporate minimization measure BIO-2 which ensures that no pollution or runoff would enter the canal. Therefore, the Project would not interfere with native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. No direct, indirect, or cumulative impacts are expected. ***(Source: MSHCP; General Plan 2025 –Figure OS-7 – MSHCP Cores and Linkage)***				
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
e. Response: **No Impact.** The City's Urban Forestry Policy Manual regulates removal and tree planting in the City. The Project Site does not contain any biological resources identified in the General Plan Open Space and Conservation Element, and will not remove any tree, because none are located on the Site. Therefore, the Project would not require a tree removal permit from the City and would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No direct, indirect, or cumulative impacts are expected. ***(Sources: MSHCP; Title 16 Section 16.72.040 – Establishing the Western Riverside County MSHCP Mitigation Fee; Title 16 Section 16.40.040 – Establishing a Threatened and Endangered Species Fees; City of Riverside Urban Forestry Policy Manual [2008])***				

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

f. Response:

No Impact. The Project Site is located within the boundaries of the Western Riverside County MSHCP; however, as discussed under question a) above, it is not located within any criteria cells, or area that would be subject to specific protocol level survey requirements. As discussed in question c) above, the Site does not contain any resources identified on the City of Riverside General Plan, Open Space and Conservation Element. Therefore, the Project would not conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP. No direct, indirect, or cumulative impacts are expected.

(Sources: MSHCP; General Plan 2025 – Figure OS-6 – SKR Core Reserve and Other HCPs; SKR HCP)

3.6 Cultural Resources

This section is based on the Phase I Cultural Resources Assessment report prepared by VCS Environmental (refer to Appendix C). The Phase I Cultural Resources Assessment contains detailed supporting information relating to potential impacts to cultural, historic, paleontological, and Tribal cultural resources.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒

a. Response:

No impact. The Project construction activities will include ground disturbance. The only built structure within the Project Site is the existing Hunter Substation. A historic review and evaluation of the existing substation was conducted by Daly & Associates, who meets the Secretary of Interior's Standards for Professional Qualifications for architectural historian and historian (refer to Appendix C). The existing substation was found to be ineligible for listing under National Register of Historic Places, the California Register of Historic Resources, the California Historical Landmarks Listing, the Historic Properties Directory, and the California Points of Historical Interest. Therefore, no impacts to historical resources pursuant to 15064.5 are expected to occur during construction or operation of the Project.

(Source: Phase I Cultural Resources Assessment for the Hunter Substation Replacement Project [VCS 2019])

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

b. Response:

Less than Significant Impact with Mitigation Incorporated. One potential cultural resource, an abalone shell fragment, was identified on the project site during the Phase I Cultural Resources Assessment (VCS 2019). It is not clear if this abalone shell fragment is prehistoric or a modern occurrence. In light of the general cultural sensitivity of the Project area, and because the western parcel of the Project Site footprint is currently undeveloped, and was historically partially undeveloped, there is potential for buried resources to be unearthed during construction of the Proposed Project. Implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, and CUL-4 would ensure there would be no substantial adverse changes in the significance of any cultural resources.

MM CUL-1: Prior to grading permit issuance, if there are any changes to project site design and/or proposed grades, the RPU or its Engineering, Construction, and Procurement (EPC) Contractor shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City, developer/applicant, and consulting tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the project site. The City and the developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with consulting tribe, to provide tribal monitoring for ground disturbing activities.

MM CUL-2 (Archaeological, Tribal and Paleontological Monitoring): At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the RPU or its EPC Contractor shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The project archaeologist, in consultation with consulting tribes, and the RPU, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:
    a. Project grading and development scheduling;
    b. The development of a rotating or simultaneous schedule in coordination with the RPU and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists;
    c. The protocols and stipulations that the RPU, the EPC Contractor, tribes, and project archaeologist/ paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;
    d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and
    e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM CUL-4.

MM CUL-3 (Treatment and Disposition of Cultural Resources): In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project, the following procedures will be carried out for treatment and disposition of the discoveries:

1. **Consulting Tribes Notified:** within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the city evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation.
2. **Temporary Curation and Storage:** During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

of any artifacts from the project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and

3. **Treatment and Final Disposition:** The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same:
   a. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;
   b. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation;
   c. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and
   d. At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.

MM CUL-4 (Cultural Sensitivity Training): The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

(Source: Phase I Cultural Resources Assessment for the Hunter Substation Replacement Project [VCS 2019])

c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

c. Response:

Less than Significant Impact. No human remains are known to exist on the Project Site, and the site is not identified as a formal cemetery. However, the lack of past evidence of a Native American burial ground or human remains at the Project Site does not guarantee the absence of subsurface remains. Section 7050.5 of the California Health and Safety Code provides for the disposition of accidentally discovered human remains. Compliance with Section 5097.98 of the California Public Resources Code during Project construction, as outlined by Project Feature HR-1, would preclude significant impacts to human remains.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
HR-1: Section 7050.5 of the California Health and Safety Code provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains. Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the NAHC within 24 hours which, in turn, must identify the person or persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains. The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code, Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code, Section 5097.98). ***(Source: Phase I Cultural Resources Assessment for the Hunter Substation Replacement Project [VCS 2019])***				

3.7 Energy Resources

3.7.1 Existing Setting

Warren-Alquist Act

The Warren-Alquist Act of 1975 gives statutory authority to the California Energy Commission (CEC), the State's primary energy policy and planning agency. The CEC adopted State-wide policies to reduce wasteful, inefficient, and unnecessary energy consumption. The core responsibilities of the CEC are advancing state energy policy, achieving energy efficiency, investing in energy innovation, developing renewable energy, transforming transportation, overseeing energy infrastructure, and preparing for energy emergencies.

California Energy Action Plan

The CEC prepared the California Energy Action Plan in 2008, identifying emerging trends related to energy supply, demand, conservation, public health and safety, and maintenance of a healthy economy to support the CEC's core responsibilities. The 2008 update to the plan addresses needed changes in the following policy areas: energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change.

City of Riverside

The RPU is a public utility that currently provides and would continue to provide electricity to the City. The Open Space and Conservation Element of the General Plan (Riverside 2012) provides several policies relative to energy use in the City of Riverside. The City of Riverside adopted a Green Action Plan, and Climate Action Plan further stating that it has made energy efficiency and conservation a priority.

3.7.2 Impacts

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

a. Response:

Less Than Significant Impact. Due to its nature, the Project would result in more efficient operation of the substation. This is due to the replacement of the old infrastructure that can no longer maintain existing loads with upgraded components that would conform to the most recent State of California's Title 24 Building Standards and CalGreen requirements and efficiency standards. Construction activities would involve the use of gasoline and diesel fuel for operation of construction equipment and result in a short-term increase in the use of energy resources. There are several distinct construction stages associated with construction of the new substation, demolition of the old substation, and construction of the warehouse buildings. Phases and their expected duration are described in detail in the Project description. Each phase would require use of different equipment. Typical construction equipment would include: dozers, graders, scrapers, jack hammers, compactors, work trucks, haul/dump trucks, bucket trucks, drill rigs, work trucks, and truck-mounted cranes. Not all construction equipment would be operated at the same time. Each day, only a few vehicles or equipment would be utilized, thereby minimizing wasteful use of fuels. Total duration of construction of the Project is approximately 1.5 years. Once construction is completed, no further use of fuels would be needed. Construction equipment will only be used when needed to perform a particular action on the project, and as such no wasteful, inefficient, or unnecessary consumption of energy resources is anticipated. In addition, the contractor would use construction equipment and vehicles with the highest fuel efficiency standards available, whenever economically feasible, and would apply the energy related Design Features ERG-1 through ERG-3.

Once construction is completed, all construction equipment would be removed from construction and staging areas. There would be no continued activities in the Project site that would require consumption of fuels during operation of the Project beyond what currently occurs at the Site. Because the substation and the warehouse would be built to the most recent building standards, they would be more efficient in terms of operational energy use than the existing substation. Therefore, operation of the Project would not result in indirect, direct, or cumulative impacts to energy due to wasteful, inefficient, or unnecessary consumption of energy resources.

ERG-1 The Project shall use energy-efficient equipment where feasible and maintain older construction equipment to keep in good working order**.**

ERG-2 During construction, the contractor shall schedule construction operations to efficiently use construction equipment (e.g., only haul waste when haul trucks are full and combine smaller dozer operations into a single comprehensive operation, where possible).

ERG- 3 During construction, the construction contractor should promote employees carpooling.

(Sources: Warren-Alquist Act; General Plan 2025 Open Space and Conservation Element; Green Action Plan, and Economic Prosperity Action Plan and Climate Action Plan)

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

b. Response:

No impact. The Project would be required to comply with the State of California's Title 24 Building Standards and CalGreen requirements for energy efficiency. As discussed above, the Project would replace the existing deteriorated substation with a new substation and a warehouse building that would comply with the most recent standards. The new Hunter Substation would be also more efficient in terms of conveyance of energy and reduction of voltage levels because the substation infrastructure would be upgraded and would not result in the loss of energy that otherwise may happen if the substation is not replaced. As such, the Project would be consistent with the energy efficiency goals established in the General Plan, California Energy Commission, and California Action Plan because it allows RPU to meet the forecast energy demand by providing reliable energy infrastructure. The Project would not result in direct, indirect, or cumulative impacts in the context of state or local plans for renewable energy or energy efficiency.

(Sources: Warren-Alquist Act; General Plan 2025 Open Space and Conservation Element, Green Action Plan, and Economic Prosperity Action Plan and Climate Action Plan)

3.8 Geology and Soils

Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐

i. Response:

Less Than Significant Impact. The Project Site has not been mapped by the California Geological Survey (CGS) for fault rupture as part of the Alquist-Priolo Act. No known active or potentially active faults are known to cross the site. As shown on the General Plan 2025 Figure PS-1 - Regional Fault Zones, the closest potentially active fault is the San Jacinto fault located approximately 4½ miles northeast of the Project Site. This fault runs more than 125 miles, from northwest of El Centro in Imperial County to northwest of San Bernardino, passing through the intersection of Interstates 10 and 215, the City of Loma Linda, and the Box Springs Mountains. This fault has the capability of producing up to a 7.0M earthquake. Due to the distance, a fault rupture through the site is unlikely. Therefore, the Project would not directly, indirectly, or cumulatively cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.

(Sources: General Plan 2025 - Figure PS-1 - Regional Fault Zones; Hunter Substation Geotechnical Investigation Report [TRC, 2019])

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii. Strong seismic ground shaking?	☐	☐	☒	☐

ii. Response:

Less Than Significant Impact. Southern California is a seismically active region. The City of Riverside is not located in a fault zone, but in the event of an earthquake, the City and the Project Site would be subject to seismic ground shaking. As shown on the General Plan 2025 Figure PS-1 – Regional Fault Zones, the San Jacinto fault is located nearby and has the potential to generate moderate to large earthquakes up to 7.0M that would cause intense ground shaking at the Project Site. Although earthquakes can cause damage at a considerable distance, shaking will be very intense near the fault rupture. The City of Riverside adopted several policies related to seismic hazards, including Policy PS-1.2: Locate important public facilities of City importance outside of geologically hazardous areas. The Project site is already developed with a substation, so the risk of loss, injury, or death involving seismic event would be less than under existing conditions as the Project would result in newer equipment designed and built according to existing seismic safety standards. The new Hunter Substation would be constructed according to the most recent California Building Code (CBC) that is more stringent than the code that the existing Hunter Substation site adhered to when it was built. Chapter 16 of the 2016 CBC outlines the procedure for seismic design of structures, and site seismic coefficients. Implementation of these design standards and standard engineering practices would reduce risks associated with seismic shaking to a level considered less than significant (refer to Design Features GEO-1 through GEO-3 below). Therefore, the Project directly, indirectly, and/or cumulatively would result in less than significant impact related to potential of substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

GEO-1 The Project at a minimum, should be designed in accordance with the seismic design criteria Equation 11.8-1 of ASCE 7-10, for peak ground acceleration of 0.57 g.

GEO-2 Prior to construction, the geotechnical seismic engineer shall review all plans, specifications, and constructability plans to ensure that all geotechnical aspects of the Project design conform with recommendations of the Geotechnical Report.

GEO-3 During construction, a geotechnical seismic engineer shall observe and confirm the geotechnical specifications of the Project construction to ensure general conformance of the Project plans and construction with our recommendations.

(Sources: General Plan 2025 - Figure PS-1 - Regional Fault Zones; Hunter Substation Geotechnical Investigation Report [TRC, 2019])

iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒

iii. Response:

No Impact. Within Riverside, the four primary liquefaction areas include the area along the Santa Ana River, a broad area south and west of the Riverside Municipal Airport, a portion in western Riverside spanning La Sierra Avenue, and a smaller area along the City's southern boundary. According to the General Plan 2025 Figure PS-2 – Liquefaction Zones and the Geotechnical Report, the site is located on soil that has low liquefaction potential. Soils most susceptible to liquefaction are loose to moderately dense, saturated, non-cohesive soils with poor drainage, such as sands and silts with interbedded or capping layers of relatively low permeability soil. The soils on site consist of a mixture of clay, sands, clay sand, and lean clay. Therefore, the Project would not result in seismic-related ground failure impacts, including liquefaction either directly, indirectly, and/or cumulatively.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(Sources: General Plan 2025, Figure PS-2 - Liquefaction Zones; Hunter Substation Geotechnical Investigation Report [TRC, 2019])				
iv. Landslides?	☐	☐	☐	☒

iv. Response:

No Impact. The site is flat and does not contain steep slopes. Landslides typically occur in areas on steep slopes, and may result from heavy rain, erosion, removal of vegetation, seismic activity, or combinations of these and other factors. The Project Site has not been mapped by CGS for seismically-induced landslide hazards. Because of the relatively flat topography of the Project Site, landslides are not considered a hazard for the site. Therefore, the Project would not result in landslides impacts, either directly, indirectly, and/or cumulatively.

(Sources: General Plan 2025; Hunter Substation Geotechnical Investigation Report [TRC, 2019])

b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

b. Response:

Less Than Significant Impact. The site is flat and does not contain steep slopes. The National Pollutant Discharge Elimination System (NPDES) Construction General Permit calls for the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for establishing erosion and sediment control (BMPs) during construction activities. Design Feature WQ-2 (refer to Section 3.11) would also reduce and minimize soil erosion impacts. As such, Project construction activities would result in less than significant impacts related to soil erosion.

The Project will also be required to prepare a Water Quality Management Plan (WQMP) which would identify long-term BMPs to be implemented on the site during the Project operation. Design Feature WQ-3 would reduce and minimize soil erosion impacts. Soil erosion impacts would be minimized through the incorporation of landscaped areas and permeable gravel that will cover all portions of the Site surrounding the new substation and storage building. This will reduce exposed soils on the Site that could lead to erosion. In addition, the Project will be required to follow the City of Riverside erosion control standards (in Title 18, Subdivisions, of the RMC) and grading code (Title 17 of the RMC). Because of this, the Project is not expected to result in substantial soil erosion or the loss of topsoil. Less than significant impacts would occur directly, indirectly, and/or cumulatively.

(Sources: General Plan 2025; Hunter Substation Geotechnical Investigation Report (TRC, 2019)

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

c. Response:

Less Than Significant Impact. As discussed above, the site is flat, and no slopes are on site or would be created by the Project. Additionally, the areas surrounding the site are generally flat. Therefore, it can be concluded that the site is currently relatively stable. The proposed Project would maintain the site's generally flat topography after project construction and would not create or contribute to on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse as described in more detail below. Therefore, less than significant impacts related to soil stability would occur directly, indirectly, and/or cumulatively.

Landslides. The site and surrounding areas are generally flat and not subject to on- or off-site landslide risks. See response a) iv.

Lateral Spreading. Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open body of water, channel, or excavation. In soils, this movement may often be associated with liquefaction. As discussed above, the risk for liquefaction is low. Because of the low potential for liquefaction, the risk of lateral spreading is low.

Subsidence. According to the City of Riverside General Program 2025 - Geotechnical Report, large-scale subsidence due to fluid withdrawal is not reported in the City. In addition, the area of SR-60/I-215 Interchange was not noted for its potential for subsidence.

Liquefaction. The Project does not contain soils subject to liquefaction. See response a) iii.

Collapse. Adherence to the City's grading and building requirements, and recommendations of the Geotechnical Report will ensure that the property is adequately prepared to prevent the collapse of the graded pad. Compliance with the City's existing codes and the policies contained in the General Plan 2025 would help to ensure that impacts related to geologic conditions are reduced to less than significant impact levels directly, indirectly, and/or cumulatively.

(Sources: General Plan 2025 FPEIR; Hunter Substation Geotechnical Investigation Report [TRC, 2019]).

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐

d. Response:

Less Than Significant Impact. According to the General Plan 2025 - Figure PS-3 - Soils with High Shrink-Swell Potential, the Project is not located on soils with high-shrink swell potential, otherwise referred to as expansive soils.

However, the Geotechnical Report advises that the Project is underlined by native, moderately expansive clays. Therefore, proper preparation of the subgrade for the site would be very important. The Geotechnical Report recommends that slabs-on-grade have sufficient reinforcement and be supported by a layer of a non-expansive fill. The recommendations from the Geotechnical Report have been incorporated into Design Features GEO-4 and GEO-5. In accordance with GEO-4, soils would be compacted to at least 90 percent as determined by American Society of Testing and Materials (ASTM) Test Designation D1557, except for the native expansive clays, and native expansive clays would be compacted to between 87 to 92 percent relative compaction at a

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
moisture content at least 3 percent over optimum. With incorporation of Design Features GEO-4 and GEO- 5 for the site preparation process, and other recommendations from the Geotechnical Reports, the Project would result in less than significant substantial direct or indirect risks to life or property. **GEO- 4** As outlined in the Geotechnical Report, the soils would be compacted to at least 90 percent as determined by ASTM Test Designation D1557 except for the native expansive clays. The native expansive clays would be compacted to between 87 to 92 percent relative compaction at a moisture content at least 3 percent over optimum. **GEO- 5** As outlined in the Geotechnical Report, to reduce the potential for damage to the planned structures due to the presence of moderately expansive surficial soils, it is required that slabs-on-grade have sufficient reinforcement and be supported on a layer of non-expansive fill. ***(Sources: General Plan 2025 - Figure PS-3 - Soils with High Shrink-Swell Potential; Geotechnical Report, RMC Title 16 - Buildings and Construction and Title 18 – Subdivisions and Geotechnical Investigation Report [TRC, 2019])***				
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
e. Response: **No Impact.** The Project will be served by the Riverside Utilities public sewer system and will not utilize septic tanks, or other alternative wastewater disposal systems. Thus, it would have no impact related to septic tanks or alternative wastewater disposal systems directly, indirectly, and/or cumulatively. ***(Source: RPU, 2019)***				
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
f. Response: **Less than Significant Impact with Mitigation Incorporated**. Sam McLeod of the Natural History Museum of Los Angeles County (NHMLAC) conducted a review of the museum's geologic and vertebrate paleontological records for the Project Site and vicinity on September 5, 2019 (refer to Appendix C). The record search determined no paleontological resources have been recorded on the Project site, although fossils have been found and recorded in similar sedimentary deposits nearby. While surface grading or shallow excavations are unlikely to encounter paleontological resources, excavations that extend into older Quaternary deposits could encounter significant resources. Therefore, Mitigation Measure MM CUL-2 is prescribed in order to ensure that impacts are less than significant. (***Sources: General Plan 2025 - Policy HP-1.3; Phase I Cultural Resources Assessment for the Hunter Substation Replacement Project [VCS, 2019]; Geotechnical Investigation Report [TRC, 2019])***				

3.9 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

a. Response:

Less than significant impact. On June 1, 2005, the Governor signed Executive Order S-3-05 which sets forth a series of target dates by which statewide greenhouse gas (GHG) emissions would be reduced, as follows: 1) 2000 levels by the year 2010; 2) 1990 levels by the year 2020; and 3) eighty percent (80%) below the 1990 levels by the year 2050. In 2006, the California State Legislature adopted AB 32 (Global Warming Solutions Act of 2006) and the Governor signed it into law. AB 32 requires the CARB, the State agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by the year 2020. GHG, as defined under AB 32, includes carbon dioxide (CO2), methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. CO2 has been identified as the most important anthropogenic GHG because it comprises the majority of total GHG emissions emitted per year and it has a long atmospheric lifetime.

The primary Project-related GHG emissions are short-term fuel burning emissions associated with construction. CalEEMod was used to estimate the Project construction emissions. CalEEMod has the option to output annualized emissions in addition to maximum daily emissions. The annualized CalEEMod results are provided in Appendix B and estimate the Project's total construction GHG impact to be 641.8 metric tons of CO2 equivalents ($MTCO_2e$).

Currently, there are no established GHG significance thresholds from federal or state agencies. However, in October 2008, the CARB issued the draft "Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act". In December 2008, SCAQMD adopted the " Interim CEQA Greenhouse Gas (GHG) Significance Threshold for Stationary Sources, Rules and Plans". Each agency's guidance material represents a potential analytical framework for addressing CEQA significance thresholds for GHG. In general, interim GHG thresholds of 7,000 and 10,000 CO2 equivalents per year ($MTCO_2e/yr$) are recommended by CARB and SCAQMD, respectively. For construction-related GHG emissions, SCAQMD recommends that total emissions from construction be amortized over a 30-years project lifetime and added to operational emissions for comparison to the interim GHG thresholds. The expanded substation will not require a change in operation and maintenance activities and will not result in a net change in long-term vehicle or equipment use. Additionally, the new circuit breakers will not use sulfur hexafluoride. Therefore, there is no change in operation and maintenance emissions expected from the proposed Project. The table below presents the total estimated GHG emissions generated by the Project, as well as the annual emissions amortized over 30-years.

Table 3: Estimated Greenhouse Gas Emissions Generated by the Project

Criteria Pollutant	Metric Tons CO_2e
Total Construction Emissions	641.8
Amortized Construction Emissions	21.4

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
The estimated amortized Project GHG emissions of 21.4 $MTCO_2e$/yr is well below the interim GHG thresholds recommended by the CARB and SCAQMD. Therefore, the proposed Project would not generate GHG emissions that would cause significant direct or indirect impacts on the environment.				
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
b. Response: **Less than Significant Impact.** As discussed in Item b above, the GHG emissions generated by the proposed Project are temporary and less than the recommended significance thresholds. Therefore, the proposed Project would not conflict with any plan, policy or regulation adopted for the purpose of reducing emissions of GHG.				

3.10 Hazards and Hazardous Materials

3.10.1 Existing Conditions

A Phase I Environmental Site Assessment (ESA) was prepared for the Project Site on March 26, 2018. The Phase I ESA did not reveal any evidence of Recognized Environmental Conditions (RECs), Historic REC (HRECs), or controlled (CRECs) that would indicate the presence and/or release of hazardous substances, except for one REC for potential organochlorine pesticide-impacted soils from past agricultural use.

The site is fenced off and bordered by the Riverside Canal to the west, commercial/industrial land uses to the north and south, and Chicago Avenue to the east, with a railroad yard railroad right-of-way beyond. The eastern portion of the site is undeveloped and consists of bare ground, whereas the western portion of the site is used by the existing substation. Areas surrounding the substation are mostly covered by gravel. A small paved parking lot/driveway is located outside of the substation fence to the north.

Hazardous materials would be used and stored during construction, operation, and maintenance of the Proposed Project. The following subsections describe the typical hazardous materials to be utilized during construction, operation, and maintenance, as well as the hazardous materials that have the potential to be currently present in the Project area as a result of nearby hazardous materials sites.

Materials described below are considered to be hazardous. All materials will be tested before being disposed of appropriately and in accordance with all applicable regulations. Paint and other building materials will be tested for regulated or hazardous materials such as asbestos and lead-based paint.

3.10.2 Hazardous Materials Utilized during the Project

Construction activities would involve the periodic and routine transport and use of several common hazardous materials such as hydrocarbon fuels, lubricating oils, internal combustion engine oils, transmission fluid, hydraulic fluid, compressed gases for welding and other needs,

paint and epoxy coatings, adhesives, solvents and cleaning products. Demolition of the existing substation would involve handling, testing and disposing of materials that are regulated wastes, such as transformer oil.

Operation and maintenance of the Proposed Project, including the use of hazardous materials, would not be substantially different from existing operation and maintenance activities that are currently performed on the facilities in the Proposed Project area. Operation and maintenance of the Proposed Project would be subject to the same laws and regulations governing the handling and disposal of hazardous materials. All relevant local, state, and federal regulations would continue to be followed.

3.10.3 Hazardous Materials Sites near the Proposed Project

Table 4, Hazardous Materials Sites Adjacent to the Proposed Project, lists the known hazardous materials release sites in the Proposed Project area. These sites were determined from State agency database searches of the area surrounding the Proposed Project. Identified sites are shown in the Phase I ESA Report.

There are no sites with known hazardous materials releases or contamination on the Proposed Project site. Table 4, Hazardous Materials Sites Adjacent to the Proposed Project, lists the closest known hazardous materials release sites in the Proposed Project area. These sites were determined from the EDR database search (as well as searches using state-maintained online databases) of the Proposed Project area. The EDR data search included more than 60 different federal and state environmental data tracking sites that provide listings of sites with records of hazardous material handling or releases to the environment. Many of the lists that are included in the database search are not indicative of hazardous materials releases, but several of the lists specifically identify known past or present hazardous materials release sites and known waste disposal sites.

As shown in Table 4, three sites (two of which are at the same address) occur in proximity to the Project Site which indicate a past or present hazardous materials release or contamination. An additional 16 sites located within 0.25 mile of the Proposed Project indicate the use, storage, and/or transport of hazardous materials or wastes. These sites are further described in the Phase I ESA Report, but are not discussed here as there is little, if any, indication that they pose a potential threat to the Proposed Project from these sites.

As shown in the descriptions in Table 4, there are no hazardous materials releases or existing contamination sites in the immediate vicinity of the Proposed Project. The closest site with documented release or contamination is located approximately 611 feet south of the Proposed Project. This site is also the closest active site to the Proposed Project. All of the sites listed in Table 4 could be considered to be part of the “Cortese List”.

Table 4: Hazardous Materials Release or Contamination Sites within ¼ Mile of the Proposed Project

Map ID [a]	Site Name/ Site Address	Separation Distance/ Closest Project Structure	Hazardous Materials Database(s)	Description
A5	Champion Lumber Company 1600 Columbia Ave, Riverside, CA 92507	Approximately 611 feet north-northeast of Project Site	LUST, SWEEPS UST, HIST UST, CA FID UST	Leaking gasoline UST reported in 1987. Case closed in 1989.
B8	ARCO #100786 1855 Columbia Ave, Riverside, CA 92507	Approximately 813 feet north-northwest of Project Site	LUST, SWEEPS UST, CA FID UST, HIST CORTESE	Facility status – Remediation Plan. Gasoline leak from UST reported in 1989.
B11	EZ Serve #0091 (ARCO) 1855 Columbia Ave, Riverside, CA 92507	Approximately 813 feet north-northwest of Project Site	LUST Notify 65	Status dated 1/02/2015 - Open-Inactive. Listing indicates gasoline potentially affecting aquifer used for drinking water supply. Leak discovery listed as 06/21/1989. Numerous monitoring reports, work plans, and enforcement communication listed between 2000 and 2017.

Notes:
[a] Refer to the EDR report in the Phase I ESA Report .
Sources: *Environmental Data Resources, Inc., 2018; DTSC, 2015; SWRCB, 2015.*

3.10.4 Impacts

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

a. Response:

Less than significant impact. Project construction would require the transport, use, reuse, and disposal of hazardous materials. Hazardous materials used during construction would be typical of construction sites and would include materials such as petroleum fuels and lubricants, compressed gases for welding and other needs, paint and epoxy coatings, adhesives, solvents, and cleaning products. Once built, the Project's ongoing operations and maintenance also would require the use of similar types of hazardous materials, plus insulating oil for electric transformers. Use of hazardous materials during construction, operations, and maintenance would generate hazardous waste such as used oil, empty hazardous material containers, and off-specification products such as cleaned-up spill residue and old products no longer suitable for use onsite. The Project is not anticipated to require the use or storage of any hazardous material in excess of thresholds requiring a Risk Management Plan under State or Federal regulations. The routine use of hazardous materials during

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

construction, operation, and maintenance would require routine transport of these materials to the Site and transport of hazardous waste from the Site.

Following energization of the new Hunter Substation, the old substation will be dismantled and removed. All above-grade equipment will be removed and subsequently re-used at other RPU facilities, stored as back-up equipment, recycled, or as the last option disposed at a licensed facility. Existing wooden poles would be removed and replaced with new poles. These wooden poles may be treated and should be tested and disposed of at an appropriate facility. Paint and other building materials will be tested for regulated or hazardous materials such as asbestos and lead-based paint. Any such materials will be removed and disposed of according to all applicable local, state, and federal regulations.

Following removal of all aboveground equipment, the belowground facilities and foundations will be removed. Affected soils will be tested if signs of potential contamination are present (i.e., soil staining and/or odor). Any equipment or materials that can be salvaged for re-use or use as back-up will be treated as such. Inert materials will be sent to a recycling facility, where appropriate, or disposed of at a licensed landfill facility. All hazardous or otherwise regulated wastes, such as used transformer oils and impacted soils, will be disposed of at an appropriately licensed facility according to applicable local, state, and federal law.

Soils on the site may contain pesticides and other residual substances used at the time when the site was farmed. Because of this, all soils shall be tested for residual pesticides, and if they are not reused on the property, they will be disposed of at a licensed facility.

Routine transport, storage and use of hazardous materials during construction, operation or maintenance could create a significant exposure hazard to construction workers, the public or the environment if such materials are not properly contained and managed. Unsafe exposure to hazardous materials and hazardous waste can result in health effects to humans or the environment depending on the harmful constituents present in the material and extent of exposure. Depending on the materials and extent of exposure, human health effects from hazardous materials can include, but are not limited to, acute or chronic toxicity, skin corrosion/irritation, eye or respiratory damage, organ damage, carcinogenicity, reproductive toxicity, and asphyxiation. Conditions leading to fire, explosion, sudden pressure release, or other physical hazards can also occur if hazardous materials are not properly managed. Releases of hazardous materials to the environment can cause pollution and harm to wildlife, natural vegetation communities, and ecosystems.

Project construction areas would not be open to the public. Construction would be required to occur in compliance with all applicable and relevant regulations including, but not limited to, Federal Occupational Safety and Health Administration (OSHA) and California OSHA General Industry Safety Orders for protection of workers. Key requirements in these regulations include Code of Federal Regulations Title 29 (29 CFR) Part 1910 and CCR Title 8 Section 5194 that would require a comprehensive hazard communication program to ensure that all workers are knowledgeable in the identification and proper handling of hazardous materials to prevent unsafe exposure, unsafe storage or use, and to avoid spills. These and other requirements of Federal and State OSHA General Industry Safety Orders for hazardous substances and hazardous materials are designed to prevent accidents and unsafe levels of worker exposure. Furthermore, stormwater pollution prevention BMPs that must be implemented during construction under the State General Permit would be required to include measures to prevent contact of hazardous materials with stormwater, preventing hazardous materials in runoff from the site. Hazardous wastes would be required to be managed, shipped offsite, and treated or disposed of in accordance with comprehensive environmental protection measures for human and environmental health and safety pursuant to CCR Title 22 Division 4.5. These regulations are designed under the authority of the Federal Resource Conservation and Recovery Act to ensure the safe management of hazardous wastes from “cradle to grave.” Other Federal and State regulations are in place to minimize the potential for a release of hazardous materials during transportation to or from the Site. At a federal level, transportation of hazardous materials is regulated by various Federal agencies within the U.S. Department of

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Transportation. Transportation of hazardous waste also falls under the jurisdiction of U.S. Environmental Protection Agency (EPA). These agencies implement and enforce a broad array of transportation safety regulations in CFR Title 49 including, but not limited to, requirements for federal motor vehicle safety standards, vehicle inspection standards, fitness requirements for commercial drivers, motor carrier routing regulations, hours of service of drivers, spill prevention and response preparedness, placarding, hazardous material container specifications, and other regulations addressing safety for commercial carriers and hazardous material transport. The State of California also requires licensing of commercial transporters of hazardous material and enforces various other safety requirements for transport of hazardous materials in CCR Title 13. Considering these regulatory requirements in place would apply to hazardous material transport, storage and use during construction, the routine transport, use and disposal of hazardous materials for construction would not create a significant hazard to the public or the environment.

Following construction, hazardous material transport, storage and use during project operations and maintenance would be required to comply with all of the regulations identified above for construction, plus additional project design and operations requirements including, but not limited to, California Fire Code hazardous material safety requirements (24 CCR Part 9 Chapter 50), California Office of Emergency Services 19 CCR Division 2, Chapter 4, Article 4 (Section 2650 et seq.) requirements for Hazardous Material Business Plans, and U.S. EPA 40 CFR 112 requirements for Spill Containment Control and Countermeasures Plans. Chapter 50 of the Fire Code provides and requires safe design requirements for buildings and other areas where hazardous materials are used or stored and safe practices for handling of hazardous materials. 19 CCR Division 2, Chapter 4, Article 4 requirements at 2659 requires an employee training program that includes methods for safe handling of hazardous materials. 40 CFR 112 would require that bulk oil storage, such as for oil-filled equipment like transformers, be designed and operated with safeguards such as secondary containment and routine inspections to prevent accidental releases of oil that could reach waters of the U.S. Considering these regulatory requirements in place with which the Project construction would be required to comply, the routine transport, use and disposal of hazardous materials for construction would not create a significant hazard to the public or the environment. Less than significant impacts are expected, with incorporation of the Project Design Features HAZ-1 through HAZ-5 below, which outline how the Project will conform to existing laws.

HAZ-1: The construction contractor will follow all applicable laws and regulations pertaining to the transportation, handling, and storage of hazardous materials.

HAZ-2: Prior to export of any materials or soils from the Project site, the contractor shall characterize (i.e., test) the material to ensure transport and disposal comply with applicable laws and regulations.

HAZ-3: Construction crews shall monitor excavated soils for signs of contamination, such as staining and odor. As outlined in Design Feature HAZ-2, all exported materials will be characterized (i.e., tested) to ensure transport and disposal are in compliance with applicable laws and regulations.

HAZ-4: Prior to removal and disposal or re-use of wood features (e.g., wood utility poles), the features should be tested to identify the presence and nature of treatment. These wood features should be handled, transported, and disposed of according to applicable regulations and the results of testing.

HAZ-5: Prior to demolition of the existing substation, a certified consultant should conduct asbestos containing materials (ACM) and lead-based paint (LBP) surveys of building structures that will be renovated or demolished as part of the proposed project in order to ensure that hazardous materials handling, transport, and disposal are complied with.

(Sources: OSHA 29 CFR Part 1910, 2020, CCR Title 22 Division 4.5, 2020, CFR Title 49, 2020, CCR Title 13, 2020, CCR Title 24 Part 9, 2020, EPA 40 CFR Part 112, 2020, CCR Title 19 Division 2, 2020)

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

b. Response:

Less than significant impact. As described in Response a) above, Project construction, operations and maintenance would require the transport, storage and use of various hazardous materials. Such materials have the potential to effect human health and the environment, as previously described, if an upset or accident condition were to result in release or exposure. However, upset or accident conditions, while possible, are a very low probability for the Project. Additionally, none of the hazardous materials that would be required for the Project, or hazardous wastes generated by the Project, would be of quantities or have characteristics that could comprise a hazard substantially different from typical construction sites and commerce throughout the region. The primary hazardous materials stored and used for construction and operations in terms of bulk container quantities would be diesel fuel and lubricating oils for construction equipment, and oil-filled transformers. Transformers are sealed once filled, and changing of transformer oil is rarely required, so the use is generally not consumptive. Considering these factors and the array of additional regulations that would apply to the Project's hazardous materials during construction, operation and maintenance, the Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving a release of hazardous materials into the environment. Less than significant impacts are expected.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

c. Response:

No Impact. The Project is not anticipated to handle acutely hazardous materials, substances or waste, but will handle some hazardous materials as previously described, and will emit hazardous emissions in diesel exhaust. However, the Project is not located near existing or proposed schools. The closest school in the area, Fremont Elementary School, is located 0.81 mile west of the Project. Therefore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

(Source: General Plan 2025 FPEIR - Figure 5.13-2 - Riverside Unified School District [RUSD] Boundaries)

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

d. Response:

No Impact. The Applicant has obtained a Phase I Environmental Site Assessment (ESA) for the western portion of the Project site (the western parcel) prepared for the City of Riverside, dated March 26, 2018. The Phase I ESA followed ASTM guidelines to determine if there is any evidence of a past release of hazardous materials on the site. The EDR report contained in the Phase I ESA indicates that the Project site (both western and eastern parcels) is not on any of the government lists compiled pursuant to Government Code Section 65962.5. However, the Phase I ESA did conclude that potential organochlorine pesticide-impacted soils from past agricultural use constituted a Recognized Environmental Condition (REC).

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
A TRC Environmental Professional (refer to §312.10 of 40 CFR 312) performed a hazardous materials site visit in October 2019 and found no evidence of contamination or spills of hazardous materials on either the vacant western parcel or on the existing substation. Based on the observations from this site visit and a review of environmental database listings, the Project Site is not included on a list of hazardous materials sites and would not create a significant hazard to the public or environment. Because the project is not located on a hazardous site as defined in Government Code Section 65962.5, no impacts are expected. ***(Sources: Phase I ESA [LOR Geotechnical Group, 2018]; Hunter Substation Geotechnical Investigation Report [TRC, 2019]; TRC Environmental Professional Site Reconnaissance (2019))***				
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
e. Response: **No Impact.** The Project area is not within an airport land use plan or within 2 miles of a public or public use airport. The closest airport, Flabob Airport in Riverside, is more than 3 miles to the west of the Site. No impacts are expected. ***(Source: General Plan 2025 - Figure CCM-7 – Local and Nearby Airport Facilities)***				
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
f. Response: **Less than Significant Impact.** The City of Riverside adopted an Emergency Operations Plan in 2002. The Plan addresses the City's planned response to emergencies associated with natural disasters and technological incidents, including both peacetime and wartime nuclear defense operations. The Project Site is not mapped on the City of Riverside, Final Response Map (September 2019) as a site of special significance or protection during war or other event. The Project would not impair emergency evacuation because Chicago Avenue is not a designated emergency route. In addition, only a limited number of workers (10-15) will be present during construction, and any construction activities within or above Chicago Avenue would be conducted pursuant to City-approved Traffic Control Plans, which would ensure that emergency access was not restricted (refer to Project Design Feature TR-1). Thus, the Project would not restrict traffic flow along the local designated evacuation routes at Columbia Avenue and Iowa Avenue. During the Project operation, the substation would be unmanned and thus would not result in impacts to adopted emergency routes. Therefore, during both construction and operation, the Project would not impact emergency evacuation. ***(Sources: General Plan 2025 - Figure PS 8.1 - Evacuation Routes, Riverside Final Response Map)***				

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

g. Response:

No Impact. The Project is located in an urban setting devoid of areas of dense, dry vegetation which could pose a fire hazard risk. Terrain features such as canyon areas and hillsides that pose the greatest potential for wildfire risks are not present at the Site or in the area surrounding the Site. California State Responsibility Areas (SRAs) are areas within the state where the State Department of Forestry and Fire Protection (or CAL FIRE) has the primary financial responsibility for fire prevention, protection, and suppression (fighting) of wildland fires. SRA areas are typically covered wholly or partially by forests or trees capable of producing forest products, vegetated areas that contribute to erosion control, and areas of range land with forage value. SRA areas are not located within incorporated cities or on federal lands. SRAs are legally defined by Public Resources Code Sections 4125 - 4128. The Project Site and surrounding areas are not located within an SRA, or nearby a SRA.

CALFIRE also designates fire hazard severity zones (FHSZs) based on key factors including weather conditions, fuel conditions, and terrain. Severity is determined based on a combination of how a fire is anticipated to behave and the probability of a fire to threaten structures. FHSZs can be designated as Moderate, High, or Very High. It is important to note that these designations are only assigned within SRAs where CAL FIRE has jurisdiction for fire prevention and protection services. Only Very High FHSZs can apply within Local Responsibility Areas (LRAs). CAL FIRE submits maps (recommendations) of Very High FHSZs to LRAs, but CAL FIRE does not have the authority to require the LRAs to adopt these designations. Box Springs Mountains area is designated as a Very High hazard zone and is located 0.87 mile east of the Project Site. Due to the distance, it would not expose people or structures at the Project Site to greater wildfire risk than exists under current conditions.

(Sources: General Plan 2025 - Figure PS-7 – Fire Hazard Areas; and CalFire Very High Fire Hazard Severity Zones in LRA)

3.11 Hydrology and Water Quality

3.11.1 Existing Setting

The Clean Water Act (CWA) was passed by Congress in 1972 and its main goal is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The following are important CWA sections that would apply to this Project:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the state is required to develop lists of Impaired Waterbodies, and to update those lists every other year. These lists of Impaired Waterbodies are typically referred to as the "303(d) List”. The listed waterbodies are considered Impaired because they do not meet Water Quality Standards necessary to maintain designated Beneficial Uses. A Total Maximum Daily Load (TMDL) specifies the maximum amount of a pollutant that a water body can receive and still meet Water Quality Standards.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state

that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the National Pollution Discharge Elimination System (NPDES), a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state.

According to the General Plan Conservation Element, the primary source of water pollution in the City is urban runoff. Stormwater runoff from streets, parking lots, agriculture operations, and commercial businesses contains oil, grease, pesticides and herbicides, heavy metals, paints, household chemicals, construction materials, sediment, and eroded soil. The City of Riverside is a co-permittee with the County of Riverside in the NPDES program, which is designed to reduce pollutants in runoff. According to the NPDES permit, all new development projects and substantial rehabilitation projects are required to incorporate (BMPs) as identified in the Santa Ana Regional Drainage Area Master Plan (SAR-DAMP).

The Project Site is located within the Santa Ana River watershed (General Plan 2025 Figure OS-9 - Watersheds) which consists of 2,600 square miles, extending from the San Bernardino Mountains to the Pacific Ocean. The Project is located in the Planning Watershed 4801270000, Middle Santa Ana River, Hydrologic Sub area 801.27, sub watershed East Etiwanda Creek-Santa Ana River. This area is under jurisdiction of Santa Ana Regional Water Quality Control Board, Region 8.

The Santa Ana River is an important recreational, habitat and visual resource for the City and the entire southern California region. The Riverside Canal, which is located adjacent to the Project Site conveys flows to Temescal Creek, which ultimately discharges to the Santa Ana River Reach 3 at the Prado Basin.

The SAR-DAMP establishes the following beneficial uses of the Santa Ana River: agriculture; groundwater recharge; water-contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; Rare, Threatened, or Endangered species; and spawning, reproduction, and development. The beneficial uses of Temescal Creek include non-contact recreation, warm freshwater habitat, and wildlife habitat. The beneficial uses of the Prado Basin include water-contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; and Rare, Threatened, or Endangered species.

Sustainable Groundwater Management Act

In 2014, Governor Brown signed into law the Sustainable Groundwater Management Act (SGMA). SGMA took effect in 2015. It requires groundwater resources be sustainably managed by local

agencies through the formation of Groundwater Sustainability Agencies (GSAs) in basins that are deemed high-priority or medium-priority by the Department of Water Resources (DWR). Western Municipal Water District of Riverside and Department of Water Resources voted for the formation of Riverside-Arlington Subbasin Groundwater Sustainability Agencies in order to develop a Ground Water Sustainability Plan for the Riverside-Arlington Subbasin. As a result of this effort, the Subbasin received a low-priority for management in DWR 2019 Sustainable Groundwater Management Act 2018 Basin Prioritization.

3.11.2 Impacts

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

a. Response:

Less Than Significant Impact.
Middle Santa Ana River within Reach 3 is on the 2014-16 303(d) List for Copper, Lead, and Indicator Bacteria, and TMDLs are required. Prado Basin is also on the 2014-16 303(d) List for pH, and TMDLs are required. Temescal Creek is on the 2014-16 303(d) List for pH. To address potential water contaminants, the Project is required to comply with applicable federal, state, and local water quality regulations. The Project Site encompasses 2.5 acres, and under existing conditions, the majority of the Site is permeable. The drainage pattern is generally to the west, and pollutants sheet flow to storm drains and the Riverside Canal. Potential pollutants include loose soil, oil and grease, trash, and heavy metals.

The Project would construct a new substation on the western parcel and subsequently demolish the existing substation from the eastern parcel and construct a new storage facility. During Project construction and decommissioning, pollutants that can be expected to enter the storm drains and contribute to pollution in the downstream water bodies include loose soils, oil, grease, trash, and heavy metals, fluids, paint, and other solvents. Some of these pollutants are the 303(d) List pollutants which Santa Ana River and Temescal Creek determined would need TMDLs. Therefore, the Project would need source BMPs to ensure that it does not contribute to violation of water quality standards established by the DAMP. Because the Project would disturb over 1 acre, it would be required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (NPDES No. CAS000002), Water Quality Order No 2009-009-DWQ1, or the latest approved Construction General Permit, and incorporate a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would prescribe the use of BMPs to be implemented on the Project Site to reduce construction-related pollutants and comply with the General Plan and NPDES.

As a result of the Project, the ratio of pervious to impervious surface would change. After construction is completed, the Project site would be covered by more impermeable surface. This would result in the need to implement site design, source control, and pollution reduction and treatment BMPs, as will be outlined within the WQMP that will be completed as part of final design.

In compliance with the General Plan Policy OS-10.6 and OS-10.7, the City will work with the RWQCB to ensure urban water quality standards and objectives are maintained. In compliance with OS-10.9 related to evaluation of development projects for compliance with NPDES requirements, the Project will be required to prepare a Preliminary Water Quality Management Plan (WQMP) that will identify strategies to reduce impacts to water quality during construction (short term) and during Project operation (long term). These BMPs would reduce the pollutant load into the storm drain system.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

With incorporation of Design Features WQ-1 through WQ-3, the Project would result in less than significant impact directly, indirectly, and cumulatively on any water quality standards or waste discharge.

WQ-1 The City of Riverside shall prepare and implement construction site BMPs in compliance with the provisions of the Construction General Permit; the Municipal Separate Storm Sewer System (MS4) Permit (if applicable); the State Water Resources Control Board (SWRCB) NPDES General Permit for Stormwater Discharges Associated with Construction Activity; and any subsequent permit as they relate to construction activities for the Project.

WQ-2 Prior to construction, a SWPPP, along with erosion control-specific elements, shall be prepared by the contractor and submitted to RPU for approval. The erosion-control measures shall be designed to limit the effects of soil erosion and water degradation during construction. This plan shall be prepared and implemented in accordance with the requirements of the RWQCB's NPDES permit requirements.

WQ-3 Prior to the final design, a WQMP shall be prepared. The project will incorporate all BMPs outlined within the WQMP.

(Sources: General Plan 2025 - Figure OS-9 – Watersheds; General Plan 2025 - Open Space and Conservation Element, Clean Water Act; Geotechnical Investigation Report [2019])

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

b. Response:

No Impact. The City of Riverside Public Utilities, Water Department provides potable water service to the majority of users within the Planning Area from groundwater wells tapped into the Arlington and Riverside Basins located directly beneath the City. Most of the groundwater sources are of high quality; however, in some areas concentrations of nitrate, the pesticide 1,2-Dibromo-3-chloropropane (DBCP), and dissolved solids have been identified.

During geotechnical investigation, groundwater depth was determined to be lower than 50 feet below ground surface (bgs) at the Project site. The California Geologic Survey (CGS) has not mapped the area as having historically high ground water levels. Geotracker data from ground water monitoring wells on a site located 500 feet northwest of the Project Site shows groundwater at depths ranging from 57 to 87 feet. The Project would not require use of groundwater during construction or operation. Water needed for construction would be potable water supplied by RPU. Therefore, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. No direct, indirect, or cumulative impacts are expected.

(Sources: General Plan 2025 - Figure OS-9 - Watersheds, General Plan 2025 – Open Space and Conservation Element; Clean Water Act; Geotechnical Investigation Report [2019])

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site	☐	☐	☒	☐

c(i). Response:

Less Than Significant Impact. There are no drainages present on the Site, thus the Project would not result in alteration of the course of a stream or river. However, the Riverside Canal is adjacent to the western boundary of the Site and the Project construction activities may result in erosion and siltation impacts, if existing laws are not followed (refer to Design Features WQ-1 through WQ-3). The Project would alter the drainage pattern on the Site and result in over 1 acre of ground disturbance. During construction, the Site would be graded, excavated, and mostly covered with class II base (i.e., gravel). Demolition activities would occur on the eastern parcel. Because of these activities, erosion and siltation can occur. The potential for erosion and siltation both on- and off-site will be addressed as part of the WQMP and SWPPP to comply with NPDES requirements. With incorporation of the BMPs stemming from the WQMP and SWPPP, the Project would have a less than significant impact directly, indirectly, or cumulatively to existing drainage patterns.

(Sources: General Plan 2025 - Figure PS-4 - Flood Hazard Areas; and FEMA Flood Hazard Map 06065C0726G)

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐

c(ii). Response:

Less Than Significant Impact. As discussed above, the Project would result in construction activities that would physically alter the Site through grading, ground disturbance, and incorporation of new structures, and ultimately an increase in the impervious area on the Site, which typically results in increase of rate and/or amount of runoff. As a result, the Project would incorporate BMPs (as to be determined during preparation of the WQMP) that would ensure that storm drain capacity would not be compromised, such that no flooding would occur on- or off-site. As a result, the Project would not result in a substantial increase of the rate or amount of surface runoff. With implementation of Design Features WQ-1 through WQ-3, there will be less than significant impact directly, indirectly, or cumulatively in the rate or amount of surface runoff and it will not result in flooding on- or off-site.

(Sources: General Plan 2025 Figure PS-4 - Flood Hazard Areas; and FEMA Flood Hazard Map 06065C0726G)

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐

c(iii). Response:

Less Than Significant Impact. As discussed above, the Project would disturb over 1 acre and is required to have a coverage under the State General Permit for Construction Activities (SWPPP). As a result, BMPs would be implemented to reduce potential water quality impacts during construction. Furthermore, the Project will prepare a WQMP, pursuant to Municipal Separate Storm System (MS4) requirements. The Project will result in an increase the amount of impervious surface area on Site. However, the existing storm drain system is not undersized and has adequate capacity to serve the Project Site under future conditions, and all pollutants will be treated on site. Therefore, the Project would not create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. With implementation of the Design Features WQ-1 through WQ-3, less than significant impacts directly, indirectly, or cumulatively would occur to existing drainage patterns.

(Sources: General Plan 2025 Figure PS-4 - Flood Hazard Areas; and FEMA Flood Hazard Map 06065C0726G)

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (iv) Impede or redirect flood flows?	☐	☐	☐	☒

c(iv). Response:

No Impact. According to the General Plan map Figure PS-4 Flood Hazard Areas, the Project Site is not located within the flood hazard area or dam inundation area. The FEMA Flood Hazard Map refers to this area as "Other Areas" Zone X, which is defined as an area determined to be outside of the 0.2 % annual chance floodplain. There are no drainages present on the Site, thus the Project would not impede or redirect the flood flows of stream or river. The Project would not impede or redirect the flow of the adjacent Riverside Canal. The Project is not located within or near a 100-year flood hazard area; therefore, there will be no impact caused by this Project directly, indirectly, or cumulatively which would impede or redirect flows.

(Sources: General Plan 2025 Figure PS-4 - Flood Hazard Areas; and FEMA Flood Hazard Map 06065C0726G)

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

d. Response:

No Impact. The Project is not located in the coastal zone, and thus would not be subject to tsunamis that occur in coastal areas. Thus, no impacts due to tsunamis would occur directly, indirectly, or cumulatively. Additionally, the Project Site topography is flat, and the Project is within an urbanized area and not in proximity to lakes, or dams. Thus, no potential for seiche would occur directly, indirectly, or cumulatively. The Project is not located in proximity to the Santa Ana River or its 100-year flood zone. While the Project is located adjacent to the Riverside Canal, the site is not located within a flood hazard zone. Thus, no impact due to flood hazard should occur.

(Sources: General Plan 2025 Figure PS-4 - Flood Hazard Areas; and FEMA Flood Hazard Map 06065C0726G)

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

e. Response:

Less Than Significant Impact. As discussed under a), the Project would not conflict or obstruct implementation of SAR-DAMP, which is the local water quality control plan. The Project would be in compliance with applicable water quality related regulations for short-term and long-term impacts. The Project would implement a SWPPP and WQMP that would ensure that construction-related and operation-related BMPs are implemented. As a result, the Project would not generate pollutants that would result in conflict with, or obstruct implementation of, the DAMP. Less than significant impact is expected with implementation of Design Features WQ-1 through WQ-3. As discussed under b), the only groundwater subbasin in the area that has sustainable groundwater management plan is the Riverside-Arlington subbasin, which received a low-priority for management in the basin ranking. In addition, the Project is not located in this subbasin, and thus is not subject to the sustainable groundwater management plan. Design Features WQ-1 through WQ-3 would reduce and mitigate impacts making them less than significant.

The Project construction would include excavation to depths of approximately 5 feet bgs. This is not deep enough to affect ground water resources, which during the geotechnical investigation were determined to be at a depth of greater than 50 ft. In addition, the Project is not located within the groundwater recharge area and would not necessitate use of ground water for Project construction and operation. Therefore, the Project would not conflict with or obstruct implementation of a sustainable groundwater management plan. The Project will result in less than significant impacts directly, indirectly, or cumulatively to water quality control plan, or the sustainable groundwater management plan.

(Sources: General Plan 2025 Figure PS-4 - Flood Hazard Areas; and FEMA Flood Hazard Map 06065C0726G)

3.12 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒

a. Response:

No Impact. According to the City of Riverside General Plan 2025, the Project Site is located within the Hunter Business Park Specific Plan, Area Plan 1, General Industrial District. The Hunter Business Park Specific Plan (1988) designates the Project Site and surrounding area for industrial and commercial uses. Area 1 is located east of I-215, south of Columbia Avenue, and west of Iowa Avenue. Residential neighborhood, remnant residential farmhouses established a long time ago, are located to the west of the Project Site, and industrial and commercial uses are located to the north, east, and south. The project would be located on a western parcel and the storage units would be located on the eastern parcel when the existing substation is demolished. No subdivision of lands or construction of streets that could alter the existing surrounding pattern of development and communities would be needed. Therefore, the Project Site would not displace existing residences or divide an established community as no residences are present on the Project Site. The project would not physically divide or disrupt an established neighborhood. Therefore, no impact directly, indirectly, or cumulatively to an established community would occur with the Project.

(Sources: General Plan 2025 - Figure LU-10 - Land Use Policy Map, Table LU-5 - Zoning/General Plan Consistency Matrix, Figure LU-7 -Redevelopment Areas; The Hunter Business Park Specific Plan [1988]; Title 19 - Zoning Code, Title 18 – Subdivision Code)

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

b. Response:

Less Than Significant Impact. The General Plan 2025 identifies objectives and policies for each Specific Plan and Area Plan. The main objectives for the Hunter Industrial Park are to: retain its industrial and commercial purpose while establishing higher end businesses that could foster employment and economic growth in the City, enhance competitive position in the region (LU-56), while preserving existing residential neighborhood (LU-57). The General Plan Urban Design Framework map also designates the Project Site as Major Business Parks and Industrial Park, and as such the project type, substation, does not conflict with the intended purpose of the site, or with the General Plan goals and policies established for this area. The project would not remove residences and given its local importance for providing energy for over 4,750 users, would not inhibit the goal of the General Plan 2025 to keep a competitive position in the region. According to the City Zoning Map, the zoning designation for the Project Site is R106; General Industrial Zone.

The Project is not a "Project of Statewide, Regional or Areawide Significance" per Section 15206 of the CEQA Guideline. As such, the project would have less than significant impact and would not conflict with any applicable land use plan, policy, or regulation such as General Plan 2025, Specific Plan, and Zoning Plan.

As discussed in Section 3.5 (Biological Resources), response f), the Project is located within the MSHCP boundary; however, it is not located within any criteria cells or special areas that would require compliance with survey protocols. Because of this, the project would not conflict with applicable HCP or natural community conservation plan. Therefore, less than significant impact directly, indirectly, or cumulatively due to a conflict

with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would occur with the Project.

(***Sources: General Plan 2025 - Figure LU-10 - Land Use Policy Map, Table LU-5 - Zoning/General Plan Consistency Matrix, Figure LU-7 - Redevelopment Areas; Title 19 - Zoning Code)***

3.13 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

a. Response:

No Impact. According to the General Plan 2025 Open Space and Conservation Element, the Project is located in the zone MRZ-3 which defines areas that contain known or inferred mineral occurrences of undetermined mineral resource significance. According to the California Division of Oil, Gas, and Geothermal Resources' (DOGGR's) Well Finder, there are no oil or gas wells located within the vicinity of the Site. The Project does not require mineral extraction, would not use any minerals for construction, and is not located on any sites that are known to contain minerals. Therefore, the Project would not result in direct, indirect, or cumulative impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

(Sources: General Plan 2025 - Figure OS-1 – Mineral Resources; Mineral Land Classification of the Greater Los Angeles Area)

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

b. Response:

No Impact. According to the General Plan 2025 Open Space and Conservation Element, the Project is located in the zone MRZ-3 which defines areas that contain known or inferred mineral occurrences of undetermined mineral resource significance. Figure OS-1 does not indicate that there are mineral resources containing the locally important resources feldspar, silica, limestone, and rock products near the Site. The Project does not involve extraction of mineral resources. Therefore, the Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No direct, indirect, or cumulative impacts are expected.

(Sources: General Plan 2025, Open Space and Conservation Element and Figure OS-1 - Mineral Resources)

3.14 Noise and Vibration

This section is based on the ESA technical report prepared and included as Appendix D.

3.14.1 Regulatory Setting

A number of statutes, regulations, plans, and policies that address noise concerns have been adopted. Below is a discussion of the relevant regulatory setting and noise regulations, plans, and policies.

State

California Code of Regulations (CCR) Title 24 establishes the California Building Code (CBC). The most recent building standard adopted by the legislature and used throughout the state is the 2016 version, which took effect on January 1, 2017. The State of California's noise insulation standards are codified in the CBC (Title 24, Part 2, Chapter 12). These noise standards are for new construction in California for the purposes of interior compatibility with exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residences, schools, or hospitals, are near major transportation noises, and where such noise sources create an exterior noise level of 60 dBA CNEL, or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

Local

The proposed project is located within the City of Riverside. Applicable City of Riverside noise standards and policies are described below.

City of Riverside

Noise Element of the General Plan. The objectives and policies of this noise element are aimed at protecting the citizens of Riverside from excessive noise levels that interfere with daily routine and comfort. Applicable policies are summarized below:

- Policy N-1.1: Continue to enforce noise abatement and control measures particularly within residential neighborhoods.
- Policy N-1.2: Require the inclusion of noise-reducing design features in development consistent with standards in Figure N-10 (Noise/Land Use Compatibility Criteria), Title 24 California Code of Regulations and Title 7 of the Municipal Code.
- Policy N-1.3: Enforce the City of Riverside Noise Control Code to ensure that stationary noise and noise emanating from construction activities, private developments/residences and special events are minimized.
- Policy N-1.4: Incorporate noise considerations into the site plan review process, particularly with regard to parking and loading areas, ingress/egress points and refuse collection areas.
- Policy N-1.5: Avoid locating noise-sensitive land uses in existing and anticipated noise impacted areas.
- Policy N-1.6: Educate the public about City noise regulations.
- Policy N-1.7: Evaluate noise impacts from roadway improvement projects by using the City's Acoustical Assessment Procedure.

- Policy N-8: Continue to consider noise concerns in evaluating all proposed development decisions and roadway projects.

Municipal Code. It is stated in the City's Municipal Code, Title 7, Noise Control, that all construction, maintenance, or demolition activities within the City's boundary shall be limited to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and 8:00 am to 5:00 pm on Saturday. No construction work is permitted on Sundays and federal holidays. In Section 7.25, maximum allowable exterior noise levels in residential areas are set at 45 dBA between 10:00 p.m. and 7:00 a.m. and at 55 dBA between 7:00 a.m. and 10 p.m. Section 7.25 further states that unless a variance has been granted, it shall be unlawful for any person to cause or allow the creation of any noise which exceeds the following:

- The exterior noise standard of the applicable land use category, up to 5 decibels, for a cumulative period of more than 30 minutes in any 1 hour; or
- The exterior noise standard of the applicable land use category, plus 5 dBA for a cumulative period of more than 15 minutes in any 1 hour; or
- The exterior noise standard of the applicable land use category, plus 10 dBA for a cumulative period of more than 5 minutes in any 1 hour; or
- The exterior noise standard of the applicable land use category, plus 15 dBA for a cumulative period of more than 1 minute in any 1 hour; or
- The exterior noise standard, plus 20 dBA, or the maximum measured ambient noise level, for any period of time.

If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. Maximum exterior noise standard for office/commercial, industrial, community support, public recreation facility, and nonurban land uses are 65, 70, 60, 65, and 70 dBA, respectively, at any time.

Maximum allowable interior noise levels for residential uses are set at 35 dBA between 10:00 p.m. and 7:00 a.m., and at 45 dBA between 7:00 a.m. and 10:00 p.m. Maximum allowable interior noise standard for school (7 a.m. to 10 p.m. while school is in session) and hospital (any time) is both 45 dBA.

For planning purposes, the 24-hour average sound levels (CNEL) are roughly equivalent to Leq measurements plus 5 dBA when traffic is the dominant noise source (Office of Noise Control, 1976:21).

3.14.2 Existing Conditions

Some land uses are considered more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residential areas are considered to be the most sensitive type of land use to noise and industrial/commercial areas are considered to be the least sensitive. Existing noise sensitive uses on the project site and in the immediate vicinity include:

- On-site: existing substation facility
- To the north: commercial building; 100 feet

- To the south: commercial building; 50 feet
- To the west: Riverside Canal, then residences along the west side of the canal; 130 to 390 feet
- To the east: Chicago Avenue is located along the project's eastern boundary.

3.14.3 Impacts

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	☐	☐	☒	☐

a. Response:

Less than Significant Impact.

Construction Phase
Construction phase noise impacts are separated into two types of short-term impacts. The first type of short-term impacts would be generated by construction crews commuting to and from the project site as well as the transport of construction equipment and materials. Passing trucks could generate up to 87 dBA Lmax at a range of 50 ft; however, this would be a single event noise exposure. Other longer-term (hourly or daily) ambient levels would be small.

The second type of short-term impacts would be generated during site preparation and onsite construction of the Proposed Project. Each period of the construction phase has its own distinct activities and construction with its own distinct noise characteristics. Furthermore, construction of the Proposed Project must be phased so there would be no loss of electric service. Construction is anticipated for a total duration of 17 months in distinct phases such that service to the thousands of end users would not be interrupted. Typical construction equipment and associated maximum noise levels that could be used on the Proposed Project site are listed below.

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Table 5: Typical Equipment Noise Levels Measured at 50 Feet

Equipment Type	Sound Level
Bulldozer	82 dBA Lmax
Water and Pickup Trucks	75 dBA Lmax
Concrete Pump Truck	81 dBA Lmax
Excavators	81 dBA Lmax
Jaw Crushers	72 to 81 dBA Lmax
Concrete Mix Truck	79 dBA Lmax
Front End Loader	79 dBA Lmax
Backhoe	78 dBA Lmax
Forklift	75 dBA Lmax
Grader	85 dBA Lmax
Scraper	84 dBA Lmax
Jack hammer	89 dBA Lmax
Compactor	83 dBA Lmax
Drill rig	79 dBA Lmax
Truck-mounted crane	75 dBA Lmax
Large Crane	81 dBA Lmax
Stringing rig	79 dBA Lmax
Portable generator	73 dBA Lmax
Puller/tensioner	75 dBA Lmax

Equipment used during site preparation, such as backfillers, bulldozers, front loaders, compactors, scrapers, and graders generate the highest noise levels during the construction phase. Up to six pieces of construction equipment would be operating at the same time for a maximum noise level of 93 dBA L_{max} at a distance of 50 feet. The nearest residential noise receptors are located to the west, 130 feet to 390 feet from the project site. The nearest commercial noise receptors are located to the north and south, 59 feet to 100 feet from the project site. The highest noise levels generated during this phase would tend to be from site preparation. Demolition activities would use less heavy-duty equipment and generate less noise than site preparation. During other construction phase activities, noise levels would be lower than those generated during grading. Based on the distance to receptors, and short-term nature of noise generating activities, impacts from construction would be less than significant.

Operational Phase

Once construction activities are complete, ambient noise levels in the vicinity of the Proposed Project during operation would be similar to the existing substation. The new substation will be unmanned. Necessary maintenance would be less than that for the existing substation due to the use of new parts and equipment. Routine maintenance of vegetation would occur on an as-needed basis with a small crew of 1 to 2 vehicles and 1 or more employees. The maximum noise levels at nearest sensitive receptor would 55 dBA L_{max}. This is lower than the limits for nighttime and daytime hours respectively specified in the City's Municipal Code.

The Proposed Project would not generate substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact would be less than significant.

(Source: ESA, 2020)

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

b. Response:

Less than Significant Impact.

Construction Phase

Building Damage

Similar to noise, the greatest levels of vibration would occur during site preparation of the Proposed Project. Site preparation is expected to use a bulldozer, loader, water truck, concrete truck, earth mover, and forklift. Table 6 shows equipment expected to be used on the Project Site and their associated vibration levels. Other construction that would be used over the entire construction phase are shown in Table 6.

Table 6: Vibration Source Amplitudes for Construction Equipment at 25 feet

Equipment	PPV (inch/sec)	L_v (VdB)
Earth Mover	0.011	69
Forklift	0.047	81
Wheel Loader	0.076	86
Loaded Truck	0.076	86
Small Bulldozer	0.003	58

Vibration impacts occur normally within buildings, and therefore the distance to the nearest sensitive uses, for vibration impact analysis purposes, is measured between the nearest off-site sensitive use buildings and the project boundary. The closest commercial building to the north is approximately 105 feet (-19 vibration decibels [VdB] compared to the vibration level measured at 25 feet) from the project boundary. The closest commercial building is approximately 59 feet (-11 VdB) to the south. The closest commercial building to the east, across Chicago Avenue, is approximately 332 feet (-34 VdB) to the east. The closest sensitive receptors are residences to the west of Riverside Canal, approximately 130 feet (-21 VdB) from the project boundary.

To potentially cause damage to any buildings, construction activities would need to generate a vibration PPV level of more than 0.5 inch/sec (or 102 VdB). As shown in Table 6, none of the construction activities expected on the Project Site would reach these levels. Any other off-site buildings further away from the Project Site would be exposed to even lower levels. Therefore, construction activities of the Proposed Project would not result in damage to any buildings.

Human Annoyance

Table 7 lists typical construction equipment that will be used during the construction phase of the Proposed Project. The equipment with the highest vibration potential is the bulldozer, which would generate 87 VdB at 25 feet.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 7: Typical Equipment Vibration Levels Measured at 25 feet

Equipment	Vibration Level
Bulldozer	87 VdB
Water and Pickup Trucks	69 VdB
Concrete Pump Truck	69 VdB
Excavators	81 VdB
Jaw Crushers	72 VdB
Concrete Mix Truck	69 VdB
Front End Loader	86 VdB
Backhoe	69 VdB
Forklift	81 VdB
Grader	75 VdB
Scraper	69 VdB
Jack hammer	79 VdB
Compactor	81 VdB
Drill rig	79 VdB
Truck-mounted crane	75 VdB
Large Crane	81 VdB
Stringing rig	79 VdB
Portable generator	73 VdB
Puller/tensioner	69 VdB

The FTA's threshold for vibration levels at the nearest noise-sensitive receiver locations during daytime hours or of annoyance of occupants in commercial/industrial office buildings is 78 VdB and 84 VdB, respectively. The highest vibration levels at residential buildings nearest to the Project Site would be 66 VdB or lower. The highest vibrations at commercial buildings adjacent to the Project Site would be 78 VdB or lower.

Operational Phase
Once construction activities are complete, vibration impacts in the vicinity of the Proposed Project during operation would be similar to the existing substation.

The Proposed Project would not generate excessive groundborne vibration or groundborne noise levels. This impact would be less than significant.

(***Source: ESA, 2020***)

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a major public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

c. Response:

No impact.

The Proposed Project is not located within the limits of an airport land use plan. The nearest airport to the Proposed Project is the Flabob Airport, approximately 3.5 miles away. No impact would occur.

3.15 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐

a. Response:

Less Than Significant Impact. The Project is in an urbanized area and does not propose new homes or businesses that would directly induce substantial population growth and does not involve the addition of new roads or infrastructure that would indirectly induce substantial population growth.

Currently, no dwelling units or residents are present on the Project Site. The existing Riverside Utilities Hunter substation provides energy to 4,750 residents in the City of Riverside. The new substation would not expand its services or number of residents served; however, it would accommodate the forecasted load. Therefore, it is not expected to directly or indirectly induce population growth.

The Riverside substation is unmanned and after the Project implementation, the station would remain unmanned. Routine substation operations would be commensurate with current operation and maintenance of the existing substation. However, because the new Hunter Substation will be constructed with new parts and equipment, it will require less maintenance and repaint compared to existing conditions. Only occasional staff maintenance visits will be necessary. The Project would generate temporary jobs for construction workers for the duration of construction, likely from the local pool of workers. Once operational, the substation would be serviced by a similar number of staff. Therefore, the Project would not induce substantial unplanned population growth in an area, either directly or indirectly. Less than significant impacts are expected.

(Source: General Plan 2025 - Table LU-3 - Land Use Designations)

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

b. Response:

No Impact. The Project Site is currently developed with a substation with no housing on Site. As a result, the Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. No impacts are expected either directly, indirectly, or cumulatively.

3.16 Public Services

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☒	☐

a. Response:

Less Than Significant Impact. The Project would not create a demand for fire protection and emergency services that would be provided by the Riverside County Fire Department. Fire Station 6 - Northside I located 0.63-mile northeast, at 1077 Orange Street, Riverside, provides its services to the area. The Project is a replacement of the old deteriorated substation, with the new substation at almost the same location as the previous facility. The Project would not expand the services, or the service area, and thus there will be no need for additional fire protection services in excess of the services required for the existing substation. The Project is located in the urban area, and not in the urban and rural interface typically prone to fires. Because the Project is being developed and operated by a local government agency, it is exempt from payment of fire station development fees.

During construction, construction crew (4-15 workers) would commute to the Site for a period of 17 months. This number of workers would not result in a substantial temporary increase in traffic, and thus it would not affect emergency access routes, service response times, and acceptable services ratios in the area.

In addition, with implementation of General Plan 2025 policies, compliance with existing codes and standards, and through Fire Department practices, there will be less than significant impacts on the demand for additional fire facilities or services either directly, indirectly, or cumulatively.

(Sources: General Plan 2025 FPEIR - Table 5.13-B - Fire Station Locations; RMC Title 16 - Buildings and Construction; Chapter 16.52 - Development Fees for Fire Stations)

b. Police protection?	☐	☐	☒	☐

b. Response:

Less Than Significant Impact. The Project would not create a demand for police protection and emergency services that would be provided by the Riverside County Police Department. The Project would not require additional police patrol services other than that under existing conditions. The main Police Department is located at 4102 Orange Street and provides services to the North area of the City where the substation is located. Because the Project is not a proposed new land use type, the Project would not generate need for police services. During construction, the construction crew (4-15 workers) would commute to the Site for a period of 17 months. This number of workers would not result in a substantial temporary increase in traffic, and thus it would not affect emergency access routes, service response time and acceptable services ratios in the

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
area. Therefore, there will be less than significant impacts on the demand for additional police facilities or services either directly, indirectly, or cumulatively. ***(Source: General Plan 2025, Public Safety Element - Figure PS-8 - Neighborhood Policing Centers)***				
c. Schools?	☐	☐	☐	☒
c. Response: **No Impact**. The RUSD services approximately 43,000 students in Riverside. The Project is not a development project and would not increase population in the area or result in an increased need for school facilities. The Project would not increase the number of students in the area or otherwise affect nearby schools. The Project is not located near schools. The closest school in the area, Fremont Elementary School, is located 0.81 mile west of the Project. During construction, the construction crew (4-15 workers) would commute to the Site for a period of 17 months. This number of workers would not result in a substantial temporary increase in traffic, and thus it would not affect access to schools in the area. Therefore, the Project would not result in impacts to school services or generate need for school services either directly, indirectly, or cumulatively. ***(Sources: General Plan 2025 FPEIR - Figure 5.13-2 - RUSD Boundaries; RUSD Boundary Maps; Long Range Facilities Master Plan; and RMC Chapter 16.56 - School Development Fee)***				
d. Parks?	☐	☐	☐	☒
d. Response: **No Impact.** The Project would not increase the population on or near the Project Site, and thus would not generate the need for additional parks services and/or facilities or result in deterioration of recreational facilities. One recreational park is located within a 0.5-mile radius, Hunter Park, which is located 0.32 mile east of the Project Site. Another park facility, Northwest Park is located 0.72-mile northwest. During construction, the construction crew commutes are not expected to substantially increase traffic nearby, and thus are not expected to impact access to the Hunter Park, or Northwest Park. Due to the distance, the Project would not result in demand for these facilities and would not affect these facilities or their services in the short term or long term either directly, indirectly, or cumulatively. ***(Sources: General Plan 2025, Land Use and Urban Design Element, and Parks and Recreation Element - Figure PR-1 - Parks, Open Spaces and Trails, and Table PR-1 - Park and Recreation Facilities)***				
e. Other public facilities?	☐	☐	☐	☒
e. Response: **No Impact.** According to the FPEIR Figure 5.13-6 Community Centers, there are no public facilities located within 0.5 mile from the Project Site. Two libraries are located approximately 2 miles from the Project Site: Highgrove Library located at 530 Center Street, north of the Site, and Eastside Library located at 4033 Chicago Avenue C, south of the Site. Fairmount Senior Center and Ruth Lewis Community Center are also located within an approximately 2-mile radius of the Site. Due to the distance, the Project would not result in demand for these facilities and would not affect these facilities or their services in the short term or long term either directly, indirectly or cumulatively. ***(Source: General Plan 2025 - Figure LU-8 - Community Facilities)***				

3.17 Recreation

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

a. Response:

No Impact. The Project is not a residential development project and would not contribute to population growth which could result in an increased need for recreational spaces. The Project is a utility project (electric substation) and would not result in change of land use type on the Site. Thus, it would not result in an increased need for neighborhood and regional parks, nor other recreational facilities such that it would physically deteriorate these facilities. Therefore, there will be no impact directly, indirectly, or cumulatively.

(Sources: General Plan 2025 - Figure PR-1 - Parks, Open Spaces and Trails, Table PR-1 - Park and Recreation Facilities, and Figure CCM-6 - Master plan of Trails and Bikeways; Parks Master Plan [2003]; Bicycle Master Plan [May 2007])

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

b. Response:

No Impact. The Project does not include recreational facilities and is not located at a recreational facility or adjacent to one (park, trail, or community area). The Project will not cause or require the addition of new workers or residents in the City. As a result, the Project would not require an expansion of recreational facilities which might have an adverse physical effect on the environment. Therefore, there will be no impact directly, indirectly or cumulatively.

(Sources: General Plan 2025 - Figure PR-1 - Parks, Open Spaces and Trails, Table PR-4 - Park and Recreation Facilities, and Figure CCM-6 - Master plan of Trails and Bikeways; Parks Master Plan [2003]; Bicycle Master Plan [May 2007])

3.18 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

a. Response:

Less than Significant Impact. The Circulation Element of the 2025 General Plan prescribes that City streets should operate at a minimum Level of Service of D. Kittelson & Associates prepared a Trip Generation Memo (see Appendix E) to assess whether the Project required a Traffic Impact Analysis pursuant to the City of Riverside Guidelines. Traffic Impact Studies are used to analyze the effect of projects on the existing circulation system from newly generated traffic trips. The maximum daily trips over the entire construction phase of the project would be 80, with the peak hourly trips estimated to be eight (refer to Appendix E, Table 1). Per the City of Riverside Traffic Impact Analysis Preparation Guide, projects generating less than 50 daily peak hourly trips do not require preparation of a Traffic Impact Analysis. Given the Project's relatively low number of trips generated during the peak hour, and over the overall construction day, impacts to traffic circulation would be less than significant.

The closest bicycle facility is approximately 0.1 mile to the north of the project footprint (City of Riverside 2012). Construction activities are not expected to have impacts at this distance from the Project Site. Therefore, no impacts are anticipated to occur to bicycle facilities.

Impacts during operation and maintenance would decrease slightly due to the new substation requiring less maintenance. The newer substation will require less maintenance activity, and as such will generate fewer overall trips to the substation site throughout its operation. There would be no impact in this respect. Operation of the Project similarly has slightly less impacts on bicycle, pedestrian, and public transportation systems when compared to existing conditions. Project operations overall will have no impact on local transportation.

(Sources: General Plan 2025, Circulation and Community Mobility Element; Kittelson Trip Generation Memo for the Hunter Substation Project City of Riverside Traffic Impact Analysis Preparation Guide)

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

b. Response:

Less than Significant Impact. CEQA Guidelines section 15064.3 (b) outlines methods for assessing the significance of transportation impacts from land use projects and transportation projects. Specifically, CEQA Guidelines Section 15064.3 (b) prescribes that for transportation impacts, "…vehicle miles traveled is the most appropriate measure…" CEQA Guidelines Section 15064.3 (b) outlines specific methods for assessing the impacts from land use projects and transportation projects. The Proposed Project is neither a land use project nor a transportation project. Section 15064.3 (b)(s) states that "For many projects, a qualitative analysis of construction traffic may be appropriate."

The Hunter Substation Project would not be expected to have a substantial effect on total vehicle miles traveled (VMT) or per capita VMT countywide. The most significant traffic impacts would occur during construction of the new Hunter Substation, which is broken down into 12 phases. The construction phase that would generate the most daily trips would be Phase 5 – Underground Distribution Getaways with 40 total daily trips, including workers, hauling, and delivery truck trips (Appendix E, Table 1). This is below the suggested threshold for small projects which states that projects generating or attracting fewer than 110 trips per day may be assumed to cause a less than significant impact. The VMT Technical Advisory states that VMT as the preferred metric of analysis of transportation impacts is primarily due to the State's commitment to the reduction of greenhouse gases.

Operation and maintenance of the new Hunter Substation would have a net positive impact because there would be less vehicle trips generated due to new parts and equipment compared to the aging existing substation. The project would not conflict or be inconsistent with CEQA Guidelines section 15064.3 (b).

(***Sources: Kittelson Trip Generation Memo for the Hunter Substation Project; OPR Technical Advisory on Evaluating Transportation Impacts in CEQA. 2020)***

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous	☐	☐	☒	☐

intersections) or incompatible uses (e.g., farm equipment)?				

c. Response:

Less Than Significant Impact. Construction of the Proposed Project does not require the construction of new roads or modification of the geometric design of existing roads. Construction of sub-transmission and distribution line getaways may require temporary lane or road closures during construction. All work within or over City streets, such as Chicago Avenue, will be conducted pursuant to encroachment permits and approved traffic control plans from the City of Riverside (Design Feature TR-1). In addition, delivery of large construction equipment or materials will include traffic control during ingress and egress from the Project Site, where required by the City.

TR-1: Any construction activities that could affect traffic circulation on Chicago Avenue or Marlborough Avenue shall be performed pursuant to a Traffic Control Plan approved by the City.

d. Result in inadequate emergency access?	☐	☐	☒	☐

d. Response:

Less than Significant Impact. Construction activities are expected to generate a maximum of eight trips during the peak hour. All construction within or above City streets will be conducted pursuant to City-approved Traffic Control Plans, which will ensure that emergency access is not significantly obstructed (Design Feature TR-1). Therefore, impacts would be less than significant.

During operation, the substation would be unmanned. Maintenance vehicles would access the project site via two existing driveways located on Chicago Avenue. Furthermore, operation and maintenance activities would be less than for the existing aging substation due to new parts and equipment. Trips to and from the storage structure would also not occur daily. No impacts would occur during operation and maintenance.

3.19 Tribal Cultural Resources

3.19.1 Native American Consultation

On behalf of RPU, VCS initiated Native American consultation by submitting a request to the Native American Heritage Commission (NAHC) for a Sacred Lands File search on September 24, 2019 (refer to Appendix C). This started the consultation process as prescribed by AB52. The results of the Sacred Lands File search were negative. To continue the AB52 Consultation process, Tribal Contact Letters were sent to all Tribal representatives that have requested to be on the City of Riverside's (i.e., RPU) AB52 contact list in March 2020. The full list of Tribal Representatives that received AB52 letters is in Appendix C, Section 5.4.

RPU received three responses to the AB52 letters, as summarized in Table 8 below. Two of the three tribes requested formal consultation under AB52 (Rincon and Soboba Bands). RPU completed AB52 consultation with these two tribes. The Tribes were provided project documents, including preliminary grading plans, Phase I Cultural Resources Assessment, and RPU's proposed Mitigation Measures relating to Cultural Tribal Resources. While San Manuel Band of Mission Indians did not request formal consultation under AB52, their input was received and incorporated into this IS/MND.

Table 8: AB52 Summary

Tribe Name	AB52 Consultation?	Key Tribal Concerns	Resolution
Rincon Band of Luiseño Indians	Yes	Final Mitigation Measures, including Native American Monitoring.	The Rincon Band was provided project materials, including proposed tribal and cultural mitigation for review and approval. Rincon accepted the proposed mitigation.
Soboba Band of Luiseño Indians	Yes	Final Mitigation Measures, including Native American Monitoring and treatment and disposition of tribal materials.	The Soboba Band was provided project materials, including proposed tribal and cultural mitigation for review and approval. Soboba accepted the Proposed Mitigation.
San Manuel Band of Mission Indians	No	Final Mitigation Measures.	San Manuel Band input was consistent with the proposed mitigation measures.

3.19.2 Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☐	☒	☐	☐

i. Response:

Less than Significant Impact with Mitigation Incorporated. The Phase I Site Assessment performed for the new Hunter Substation did not identify any tribal cultural resources on the Project Site, including record search and survey. Therefore, no known tribal historical resources exist on the Project Site that are eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. It is possible for unknown tribal cultural resources to be unearthed and affected by grading or construction activities for the Proposed Project. Implementation of Mitigations Measures CUL-1 through CUL-4 would ensure impacts would be less than significant. RPU completed AB52 consultation with two tribes (Soboba and Rincon Tribes). Both tribes agreed that implementation of these measures would ensure impacts to Tribal Resources would be less than significant.

(Source: Phase I Cultural Resources Assessment for the Hunter Substation Replacement Project [VCS 2019])

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

ii. Response

Less than Significant Impact with Mitigation Incorporated. As mentioned above, no tribal cultural resources were identified on site during cultural resources surveys. If any tribal cultural resources are discovered, implementation of Mitigation Measures CUL-1 through CUL-4 would ensure impacts to tribal cultural resources would be less than significant impact.

(Source: Phase I Cultural Resources Assessment for the Hunter Substation Replacement Project [VCS 2019])

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3.20 Utilities and Services Systems

3.20.1 Existing Conditions

Table 9: Existing Landfill Capacity

Facility	Distance from Project Site	Max Permitted Capacity per Day	Remaining Capacity	Remaining Capacity Date	Total Max Permitted Capacity	Closing Date
Mid Valley Landfill	11 miles	7,500 tons	61,219,377 cubic yards	6/30/2019	101,300,000 cubic yards	4/1/2045
Badlands Landfill	13.5 miles	4,800 tons	15,748,799 cubic yards	1/1/2015	34,400,000 cubic yards	1/1/2022
El Sobrante Landfill	15 miles	16,054 tons	143,977,170 cubic yards	4/1/2018	209,910,000 cubic yards	1/1/2051

3.20.2 Impacts

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

a. Response:

Less than Significant Impact. The Project Site is currently partially developed, and has connections for power, water, wastewater, and telecommunications. While the new substation and storage facility will need updated connections to these required utilities, these connections will not result in significant environmental effects.

(Source: RPU, 2019)

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐

b. Response:

Less than Significant Impact. Water use during construction activities of the project would primarily be for dust control and cleaning of equipment. Water would be sourced from the RPU Water Division. The project would have sufficient water supplies available to serve the project.

Operation of the Project would not substantially change water demand for the Project Site. No additional landscaping will be created. While the proposed storage facility (to be constructed on the western parcel of the Project Site, primarily where the current Hunter Substation is located) will include facilities such as restrooms,

the storage facility is not anticipated to be subject to daily use. As for construction water use, RPU has verified that sufficient water supply is available for Project operations. Impacts would be less than significant.

(Source: RPU, 2019)

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

c. Response:

Less Than Significant Impact. Construction of the project would generate minimal amounts of wastewater. Impacts to the demand of existing wastewater treatment facilities would be minor. Operation and maintenance of the project would be similar to existing conditions. Once the existing Hunter Substation is removed and the new substation is under operation, the remaining unused space on the eastern parcel will be redeveloped into a storage facility to be used by the RPU. The new storage facility will include a new single-story storage structure (25 feet tall, 40 feet wide, and 80 feet long), with a mezzanine, parking, office and storage space, and water and sewer connections for restrooms. The wastewater would connect to the existing wastewater conveyance located at the project site. Existing wastewater treatment facilities would have adequate capacity to serve the project and impacts would be less than significant.

(Source: RPU, 2019)

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair attainment of solid waste reduction goals?	☐	☐	☒	☐

d. Response:

Less than Significant Impact. During construction, the project would not generate large amounts of solid waste. Most of the exported materials, such as soils, steel, conductor, gravel, and concrete can be reused, recycled, or otherwise diverted from disposal at a landfill. Solid waste generating construction activities include demolition of buildings, foundations, security wall, vegetation, etc., located on the western parcel. Once the new substation is constructed and energized, the existing substation will be dismantled and removed. Equipment from the old substation will be re-used if possible, stored as back-up equipment, recycled, or disposed of as a last option. Operation and normal maintenance of the project would generate a very small amount of solid waste. Nearby landfills that would serve the project are Mid Valley, Badlands, and El Sobrante Landfills. Information about these landfills is shown above in Table 9: Existing Landfill Capacities. Surrounding landfills would have more than adequate capacity to dispose of solid waste generated by the project. Therefore, impacts to landfill capacity or solid waste reduction goals would be less than significant.

(***Source: RPU, 2019)***

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

e. Response:

Less than Significant Impact. AB 939 required cities to divert solid waste from landfills at a minimum of 25% by 1995 and 50% by 2000. Countywide Integrated Waste Management Plan was developed in accordance with AB 939 and maintains the 50% diversion mandate. AB 341 "declares that it is the policy goal of the state that not less than 75% of solid waste generated be source reduced, recycled, or composted by the year 2020, and annually thereafter." It also contains an ordinance for any business that generates more than four cubic yards of commercial solid waste per week. As discussed under response to Criteria d) above, most of the exported material from construction of the Project can be reused, recycled, or otherwise diverted from disposal at a landfill. Therefore, impacts will be less than significant.

3.21 Wildfires

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

a. Response:

No Impact. The Project is located in the urban setting devoid of areas of dense, dry vegetation which could pose a fire hazard risk. Particularly canyon areas and hillsides pose the greatest potential for wildfire risks; however, these types of terrain features are absent from the Site. California State Responsibility Areas (SRAs), are areas within the state where the State Department of Forestry and Fire Protection (or CAL FIRE) has the primary financial responsibility for fire prevention, protection, and suppression (fighting) of wildland fires. SRAs are typically covered wholly or partially by forests or trees capable of producing forest products, vegetated areas that contribute to erosion control, and areas of range land, or forage value. SRAs are not located within incorporated cities or on federal lands. SRAs are legally defined by Public Resources Code Sections 4125 - 4128. The Project Site and surrounding areas are not located within SRAs, or nearby SRAs.

CALFIRE also designates fire hazard severity zones (FHSZs) based on key factors including weather conditions, fuel conditions, and terrain. Severity is determined based on a combination of how a fire is anticipated to behave and the probability of a fire to threaten structures. FHSZs can be designated as Moderate, High, or Very High. It is important to note that these designations are only assigned within SRAs where CAL FIRE has jurisdiction for fire prevention and protection services. Only Very High FHSZs can apply within Local Responsibility Areas (LRAs). CAL FIRE submits maps (recommendations) of Very High FHSZs to LRAs, but CAL FIRE does not have the authority to require the LRAs to adopt these designations. Box Springs Mountains area is designated as a Very High hazard zone and is located 0.87 mile east of the Project Site. Due to the distance, it would not expose the substation to additional wildfire risk more than it is under existing conditions.

In addition, and as discussed under Section IX(f), the Project would not impair emergency evacuation because Chicago Avenue is not a designated emergency route. In addition, only a limited number of workers (10-15) will be present during construction, and thus the Project would not restrict traffic flow along the local designated evacuation routes at Columbia Avenue and Iowa Avenue. During the Project operation, the substation would be unmanned and thus would not result in impacts to adopted emergency routes.

The City of Riverside adopted an Emergency Operations Plan in 2002. The Plan addresses the City's planned response to emergencies associated with natural disasters and technological incidents – including both peacetime and wartime nuclear defense operations. The Project Site is not mapped on the City of Riverside, Final Response Map (September 2019) as a site of special significance or protection during war or other event.

The center of emergency is located at 3085 Saint Lawrence Street, approximately 7 miles south of the Project Site. Because the Project is not located in a fire prone zone, the Project would not result in direct, indirect, or cumulative impact to adopted emergency response plan or emergency evacuation plan.

(***Sources: General Plan 2025 - Figure PS 8.1 - Evacuation Routes, Figure PS-7 – Fire Hazard Areas; and CalFire Very High Fire Hazard Severity Zones in LRA, Riverside Final Response Map)***

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

b. Response:

No Impact. The Project is located in a flat urban setting, and is not located within an SRA or a designated Very High FHSZ within an LRA. In addition, the Project involves the construction of a substation that replaces an existing deteriorating substation in a similar location. As discussed under Response a), the Project does not create slopes, and thus does not affect prevailing winds and other factors; therefore, this Project would not exacerbate wildlife risk. The Project does not include any habitable structures and would not include occupants. The substation would be unmanned, and only routine maintenance inspections would be necessary. It is assumed that approximately six inspections would be conducted annually by a staff of two. Furthermore, the Project would not create or exacerbate key factors such as steep slopes, prevailing winds, or fuel management, thereby exposing Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire directly, indirectly or cumulatively; therefore, no impact is expected.

(***Sources: General Plan 2025 - Figure PS-7 – Fire Hazard Areas; and CalFire Very High Fire Hazard Severity Zones in LRA)***

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

c. Response:

No Impact.
The Project is located in the urban setting where there is limited risk for wildfire hazard. In addition, the Project would replace an old, deteriorating substation and connect infrastructure (gateways, poles, sub-transmission lines) with new infrastructure that complies with existing regulations and standards. The proposed Hunter Substation will be connected to four 69kV sub transmission lines and 20 distribution lines. The proposed gateways will mirror the existing substation gateways, including re-use of overhead support structures, underground duct banks, and underground vaults where possible. Refer to Figure 5, Proposed Site Layout Map in Appendix A for the layout of this infrastructure. The Project would require installation of new sub-transmission line gateways, and realignment of existing sub-transmission lines to enter the proposed Hunter Substation in the new location, and replacement of at least two sub-transmission poles. The new gateways will be constructed by trenching and installing new duct bank from the new substation yard until reaching connection points with the existing underground distribution line gateways. Three new underground distribution line vaults

will be installed, and one existing underground distribution line vault will be utilized in place as part of the distribution line gateways. After the Project is completed, the new distribution and sub-transmission gateways, and support structures are expected to result in less fire risk than under existing conditions, because they would be upgraded. As a result, the Project would not result in any impacts, directly, indirectly, or cumulatively, with respect to fire risk.

(Sources: General Plan 2025 - Figure PS-7 – Fire Hazard Areas; and CalFire Very High Fire Hazard Severity Zones in LRA)

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

d. Response:

No Impact. As discussed in Response b), the Project does not expose people to wildfires risks, or other risks such as flooding or landslide because the substation would be unmanned, and the Project is located in an urban setting. Only occasional routine inspection would be performed. Because the Project is located in a flat urban setting and does not involve slopes, it would not create runoff or post-fire slope instability resulting in drainage changes. The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes either directly, indirectly or cumulatively; therefore, no impact is expected.

(***Sources: General Plan 2025 - Figure PS-7 – Fire Hazard Areas; and CalFire Very High Fire Hazard Severity Zones in LRA)***

The remainder of this page is intentionally kept blank.

3.22 Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒

a. Response:

No Impact. The entire Proposed Project is located with an urban environment. The eastern parcel, containing the existing substation, is developed. The western parcel, where the new substation will be constructed, is barren ground and devoid of vegetation, terrestrial habitat, or fish habitat. There would be no threat to plant or animal communities. There is no suitable habitat in the Proposed Project site for state- and federally-listed wildlife or plant species. No impacts would occur.

b. Have impacts that are individually limited, but cumulatively considerable?	☐	☐	☐	☒

b. Response:

No Impact. The Proposed Project would result in temporary impacts during the construction phase of the project. Once the new substation is completed and the old substation is decommissioned, operation would be similar to the existing conditions. Impacts from maintenance would decrease due to new equipment over the aged existing substation. Individually limited, but cumulatively considerable impacts would not be expected.

c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

c. **Response:**

Less than Significant Impact. There are no features of the Proposed Project that would cause substation adverse effects on human beings during construction and operation of the Project. All project impacts relating directly to impacts to human beings including air quality, land use, noise, population and housing, public services, traffic, recreation, and utilities, are less than significant.

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APPENDIX A

Detailed CEQA Project Description

CEQA Project Description

June 2020

Hunter Substation Replacement Project

Prepared For:

City of Riverside Public Utilities Department
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Riverside, CA 92501

Prepared By:

TRC
17911 Von Karman Avenue, Suite 400
Irvine, CA 92614

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APPENDICES

1.0 Introduction

TRC has been commissioned to provide Owner Engineering services for the City of Riverside Public Utilities' (RPU) Hunter Substation Replacement Project (Proposed Project or Project). RPU is required to comply with CEQA as part of their responsibilities associated with discretionary project decisions. This CEQA Project Description (Project Description) describes the Project, including construction and operations phases, to provide a basis for CEQA analysis. This Project Description is based on current, preliminary project design information developed by the TRC Engineering Team and input from RPU. Due to the ongoing nature of Project design, the CEQA Project Description may evolve over time. This Project Description also includes a description of the Project's technical, operational, engineering, and construction features/details, focusing on project parameters needed for environmental impact assessment. The Project Description, once approved by RPU, will be used for the preparation of the CEQA document and technical studies.

1.1 Project Location

The existing 69/12/4 kilovolt (kV) Hunter Electrical Substation (existing Hunter Substation) is located at 1731 Marlborough Avenue, near the intersection of Marlborough Avenue and Chicago Avenue, south of Columbia Avenue in the City of Riverside, California (refer to Figure 1, Project Vicinity Map and Figure 2, Project Location Map). The Project includes the existing substation site (APN 210-060-049), as well as the adjacent parcel (APN 210-060-033), which is also owned by the City of Riverside. The existing substation and the new substation areas (collectively referred to as the "Project Site") comprise approximately 2.5-acres of land located within an urban area.

1.1.1 Existing Land Uses

The western parcel of the Project Site (APN 210-060-033) is currently undeveloped. The Project Site is bordered by Chicago Avenue to the east with a railroad yard railroad right-of-way beyond, a concrete storm water drainage channel to the west with a residential neighborhood beyond, and commercial/industrial building developments to the north and south.

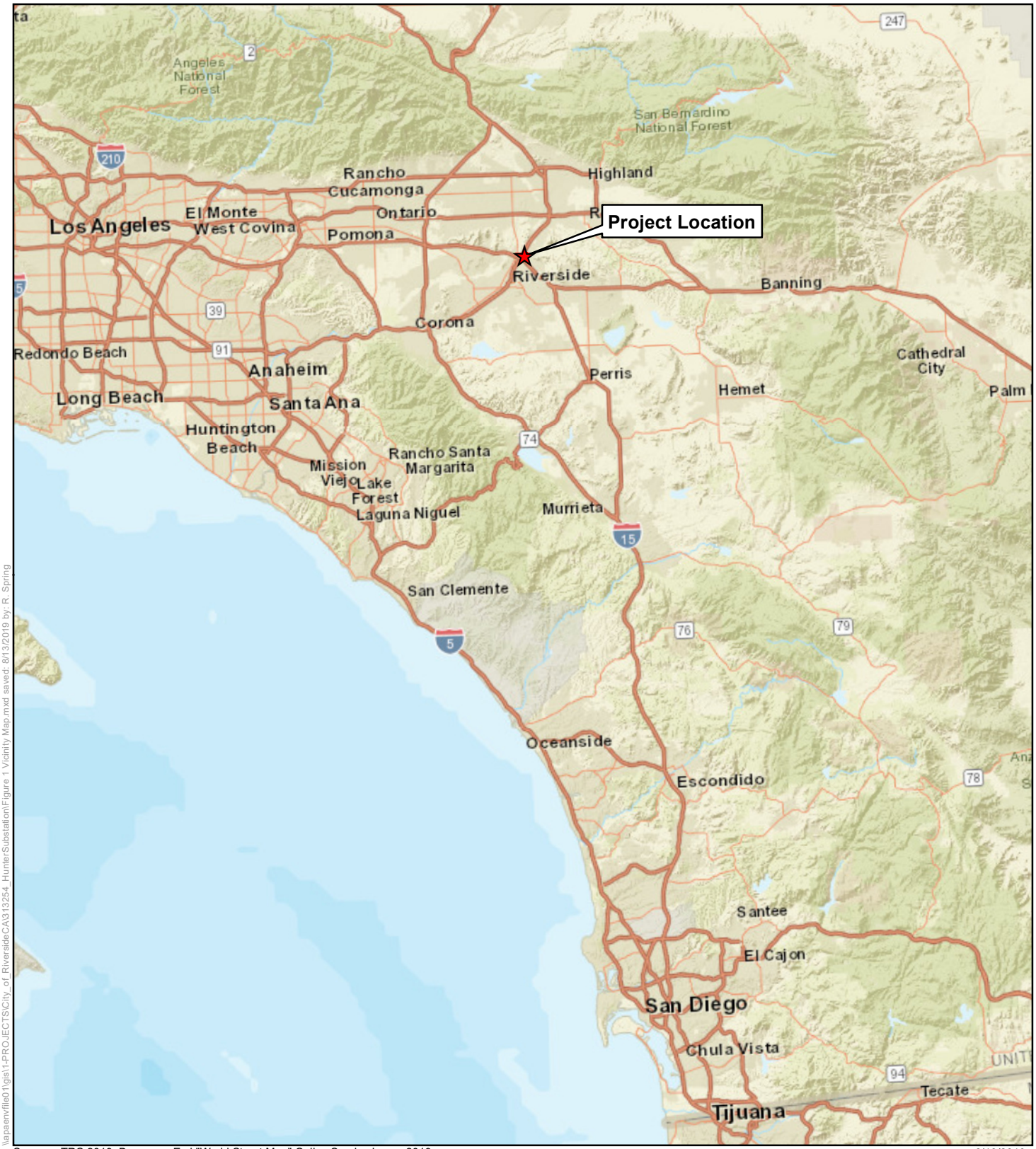
1.1.2 Project and Surrounding Zoning

Both parcels that consist the Project Site are zoned for Industrial (I), as are the adjacent parcels to the north, south, and east (across Chicago Avenue). The parcels to the west (across the water channel ROW), are zoned as Residential (R-1-7000).

1.2 Project Overview

The Proposed Project will replace the existing Hunter Substation with a new 69/12kV electrical substation (new or proposed Hunter Substation) to be located on an immediately adjacent vacant parcel (refer to Figure 3, Project Overview Map). Specifically, the Proposed Project will include the following main components:

1. Construction of a new 69/12kV Hunter Substation on previously disturbed land adjacent to and west of the existing Hunter substation;
2. Loop-in (i.e., connection to) four existing 69kV sub-transmission lines and 20 existing 12kV distribution lines to the new substation;
3. Decommissioning and removal of the existing substation; and
4. Construction and operation of a warehouse facility that will store equipment and materials used by RPU for operation and maintenance of the RPU electrical grid system.



\\apaenvfile01\gis1\PROJECTS\City_of_RiversideCA\313254_HunterSubstation\Figure 1 Vicinity Map.mxd saved: 8/13/2019 by: R. Spring

Sources: TRC 2019, Basemap: Esri "World Street Map" Online Service Layer, 2019.

8/13/2019

★ Project Location

Hunter Substation Replacement Project
Vicinity Map
Figure 1

N

1:1,000,000
1 inch = 16 miles
(when printed 8.5x11)

0 8 16
Miles

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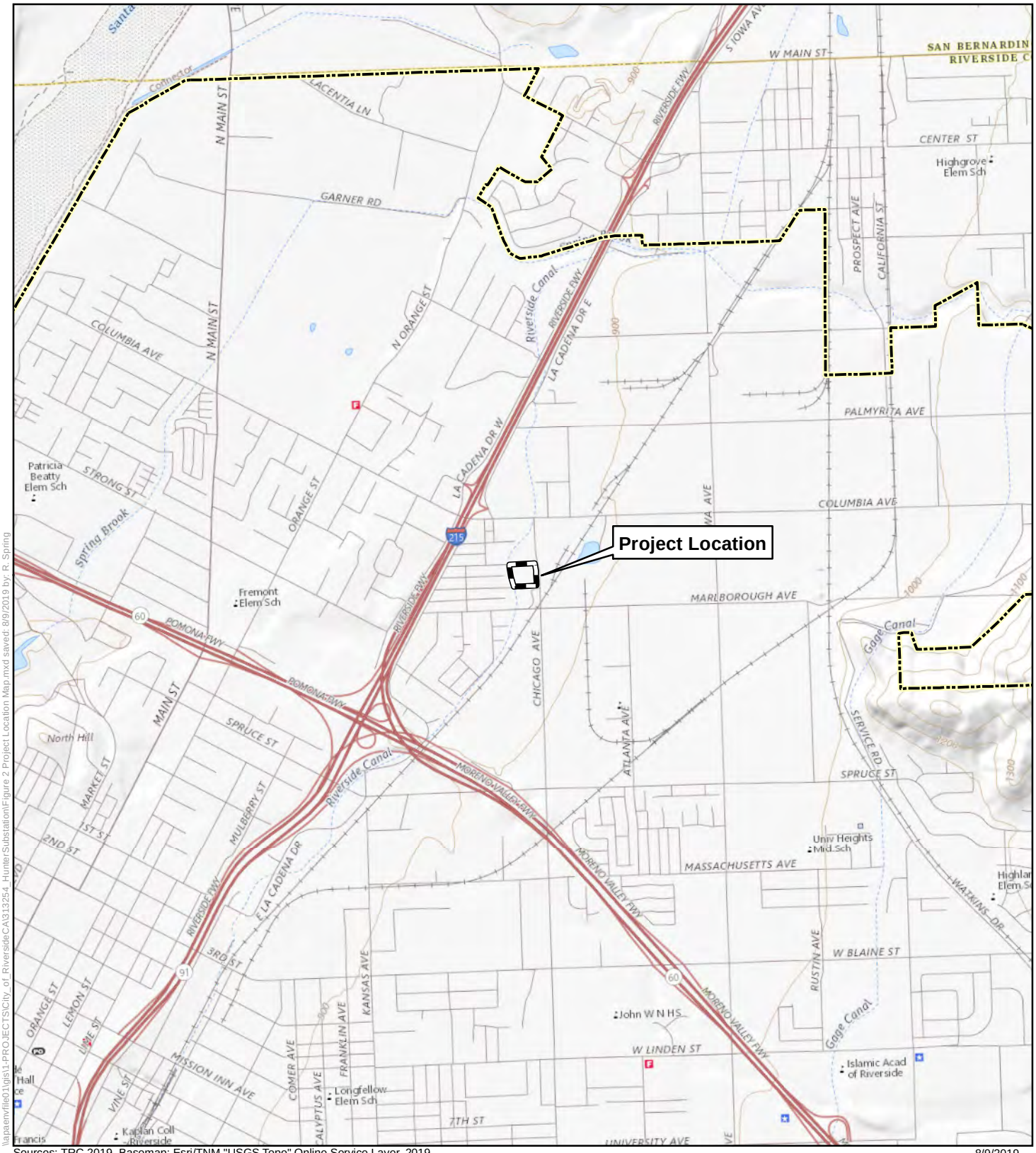

\\apanemfile01\gis1\PROJECTS\City_of_Riverside\CA\13254_HunterSubstation\Figure 2 Project Location Map.mxd saved: 8/9/2019 by: R. Spring

Sources: TRC 2019, Basemap: Esri/TNM "USGS Topo" Online Service Layer, 2019.

8/9/2019

Project Location

City of Riverside Limits

Hunter Substation Replacement Project

Project Location Map

Figure 2

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1:24,000

1 inch = 2,000 feet

(when printed 8.5x11)

0 1,000 2,000

Feet

\\apanmfile01\gis1-PROJECTS\City_of_Riverside\CA313254_HunterSubstation\Figure 3 Project Overview Map.mxd saved: 9/8/2019 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Esri/DigitalGlobe "World Imagery" Online Service Layer, 2018. 9/8/2019

- Overall Project Boundary
- Parcel Boundary
- Existing Hunter Substation Footprint
- Water Canal Easement

N

1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100 Feet

Hunter Substation Replacement Project
Project Overview Map
Figure 3

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1.3 Electrical Substations and Electric Grid Operations

Electrical substations are built and operated to convert electrical power (or electricity) from higher to lower voltages. Higher voltage electric power lines, typically referred to as *transmission or sub-transmission lines*[1], are used to transmit (or transport) electrical power over large distances, typically between where the power is created (i.e., power plant, photovoltaic solar array, wind turbine, etc.) and where it will be distributed for end use (i.e., cities or other developed areas where large groups of customers are located). Transmission lines are broadly defined as having voltage ratings above 100 kV and sub-transmission lines are defined as having voltage rating between 35 kV to 100 kV. Lower voltage electrical power lines, typically referred to as *distribution lines*, convey power from the electric substations to the individual customers (e.g., homes, businesses, etc.). Electric distribution lines are typically defined as having voltages below 35kV, but most distribution lines in California are operated in the immediate range of +/-12kV.

The existing Hunter Substation is a 69/12kV *distribution substation*[2] because it converts electricity from 69kV to 12kV. The Hunter Substation therefore intakes the higher voltage power from the greater RPU *Electric Grid*[3], and converts it to lower voltage for use by customers in the electric load area.

1.4 Project Purpose and Need

1.4.1 Overall Purpose and Need

The objective of the Proposed Project is to replace the aging existing Hunter Substation with a new substation to ensure reliability of service through the near term and extended future.

The current Hunter Substation was built in approximately 1960, and many of the existing substation components are near or past the end of their useful life. Replacing the entire substation with a complete new substation facility is a more efficient, cost effective, and viable long-term solution when compare to piecemeal replacement of parts and components. Additional detail is provided in the following subsections addressing the key aspects of the Project's purpose and need:

- Substation Load – the amount of electrical power that a substation must be able to supply
- Space and Outage Limitations – limits relating to usable space and backup electric load support
- Seismic Design Standards – Minimum design specifications that address seismic safety
- RPU Design Standards and Risk of Failure – Minimum specifications for RPU substations and risks due to aging and obsolete equipment and design

1.4.2 Substation Load

The Hunter Substation serves electricity to approximately 4,750 customers, and the electrical capacity of the substation is near the maximum design capacity. The 10-year load forecast in the Project service area is 20-25 megawatts (MW). The existing Hunter Substation does not have the electrical or physical capacity to serve this forecasted load. Also, the existing and projected Hunter

[1] *Transmission lines* are high voltage electric power lines that are utilized to transfer electricity large amounts of electricity over long distances.

[2] *Distribution substations* are defined as any substation that is connected to one or more distributions lines.

[3] The *Electric Grid*, or *Grid* for short, refers to the full system electrical transmission and distribution system, including generation, energy storage, energy transmission (i.e., transmission lines), and distribution (i.e., distribution lines).

substation load cannot be transferred to nearby stations due to the size of the load and the limited capacity of the nearby substations. Therefore, the Hunter Substation must be replaced and expanded to support the projected load growth.

1.4.3 Substation Seismic Design

A seismic study was conducted several years ago to evaluate the integrity of the Hunter Substation structures. The study recommendation was to replace a majority of the structures because they were found to be beyond rehabilitation in terms of achieving current seismic standards. Therefore, the Hunter Substation must be rebuilt to be compliant with current seismic design standards.

1.4.4 RPU Design Standards and Risk of Failure

Aging substation infrastructure pose risks to the reliability of the electrical system. RPU engineering determined that the substation deteriorated infrastructure could result in costly failures which will dramatically reduce the reliability of the RPU electric system and increase customer outages. Also, the substation bus configuration utilizes a segmented design that offers poor reliability and does not meet RPU's current design standard. Updating the substation is required to bring the substation to compliance with RPU design standards, improve system reliability, and mitigate risk of outage.

1.4.5 Space and System Outage Constraints

As explained above, the existing Hunter substation load (4,750 customers) cannot be transferred to nearby stations due to the size of the load and the limited capacity of the nearby substations. Therefore, the existing Hunter Substation cannot be demolished prior to building and energizing the new substation. However, the current Hunter Substation site has very limited space which is not sufficient to build a new substation while not reducing the capacity of the existing substation. The only viable solution is to build the new Hunter Substation on adjacent land and only demolishing the existing substation following energization of the new substation. The adjacent parcel to the west of the existing Hunter Substation site (APN 210-060-033) will be utilized to construction the new Hunter Substation, while allowing for the existing substation to operate un-restricted.

2.0 Project Description

This section provides a detailed description of the existing and proposed project components, including the design, ratings, location, and physical size (all as applicable for each project component).

2.1 Existing Hunter Substation and Electrical System

The existing Hunter Substation is a 69/12kV distribution, *air insulated substation*[4] (AIS) approximately one acre in size (fenced area). The existing Hunter Substation was construction in approximately 1960 and has been operated continuously since then by RPU. RPU has made upgrades and incrementally increased the capacity of the substation since its initial construction.

[4] Electric substations require an insulating substrate to insulate certain energized portions of the substation. The most common method is to use the existing atmosphere, or air, for this insulating substrate. Therefore, these substations are referred to as *air insulated substations*, or AIS.

The existing Hunter Substation includes the following key features and equipment:

- (4) Four 69kV Sub-transmission Lines
- (8) Eight 69kV Circuit Breakers
- (20) Twenty 12kV Distribution Lines
- (2) Two 69kV-4.36kV Power Transformers
- (4) Four 69kV-12kV Power Transformers
- (2) Two 4kV Switchgears
- (4) Four 12kV Switchgears
- (1) One 15kV, 2 Stages of 3000kV Capacitor Bank

Access to the existing Hunter Substation is from the east (access directly to Chicago Avenue) and from the north where a substation gate is located at the end of an approximately 150-foot paved driveway that leads from Chicago Avenue to the gate that served as the previous access to the eastern parcel (refer to Figure 4, Existing Site Layout Map).

2.2 Proposed New Hunter Substation

The proposed new Hunter 69/12kV distribution substation will be an AIS with four bays and a breaker-and-a-half configuration. The new Hunter Substation will be constructed on an undeveloped parcel immediately adjacent to the existing Hunter Substation. However, some features of the new substation may ultimately be located on the existing substation site. Key features of the proposed new Hunter Substation, including site layout and arrangement, key equipment specifications and ratings are discussed in the following sub-sections.

2.2.1 Site Layout

2.2.1.1 Overall Site Layout

The Proposed Project site consists of the existing approximately 1.12-acre Hunter Substation site and northern driveway (or eastern parcel) and the adjacent 1.38-acre vacant parcel (western parcel) where the majority of new Hunter Substation will be constructed. A minimum 10-foot concrete masonry (CMU) perimeter security wall will be constructed around the active substation portion of the overall Project Site (approximately 2.26 acres). If needed for substation security, and if consistent with substation design standards, RPU may increase the height of the perimeter security wall to as tall as 14 feet. As an additional security measure, RPU may install barb wire and/or razor wire on top of the CMU perimeter security wall. Figure 5, Proposed Site Layout Map, depicts the key substation site elements in relation to the current surroundings.

The preliminary General Arrangement drawing is provided in Appendix A and depicts the location and orientation of the major substation equipment.

\\aparenvfile01\gis1\PROJECTS\City_of_RiversideCA\313254_HunterSubstation\Figure 4 Existing Site Layout Map.mxd saved: 9/8/2019 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Esri/DigitalGlobe "World Imagery" Online Service Layer, 2018. 9/8/2019

Overall Project Boundary
Existing Hunter Substation Footprint
Water Canal Easement
Parcel Boundary

N

1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100 Feet

Hunter Substation Replacement Project
Existing Site Layout Map
Figure 4

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CITY OF RIVERSIDE PUBLIC UTILITIES
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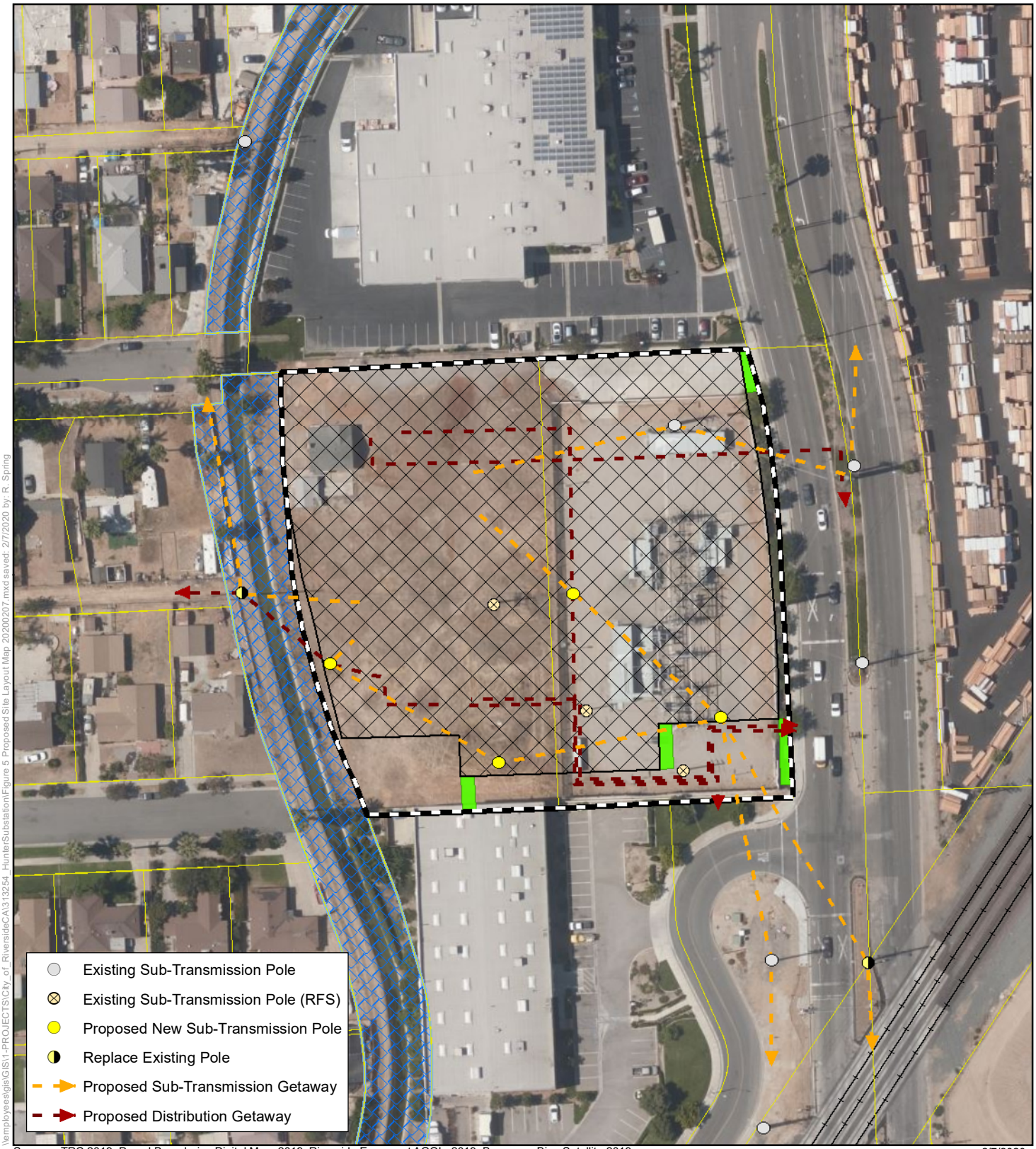

\\employees\gis\GIS1-PROJECTS\City_of_RiversideCA\313254_HunterSubstation\Figure 5 Proposed Site Layout Map 20200207.mxd saved: 2/7/2020 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Bing Satellite 2019.

2/7/2020

Overall Project Boundary
Proposed Hunter Substation Footprint
Water Canal Easement
Parcel Boundary

N

1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100 Feet

Hunter Substation Replacement Project
Proposed Site Layout Map
Figure 5

WATER | ENERGY | LIFE
CITY OF RIVERSIDE PUBLIC UTILITIES

TRC

2.2.1.2 Water Site

In addition to the new Hunter Substation facility, a small portion (approximately 4,000 square feet) of the western parcel will be dedicated for use by the RPU Water Division (Water Site). The dedicated Water Site will not be located within the walled substation facility (refer to Figure 5). The Water Site is not part of the Project and will be held for potential future development by the RPU Water Division.

2.2.1.3 Site Access

As shown on Figure 5, proposed access to the new Hunter Substation will be from two existing gates/driveways off Chicago Avenue to the east. The southern driveway will ultimately be extended west approximately 150 feet (through the existing the substation site) to connect to the western parcel where the new substation will be constructed. This southern driveway will lead directly to the Water Site, where a gated entrance into the substation will be installed, creating an access point into the substation from the south while maintain a separate gate and entrance to the Water Site.

The existing paved northern driveway currently stops at the border between the eastern and western parcels. This driveway previously provided access to the existing Hunter Substation (from the north) and to the eastern parcel from the west. The northern driveway will be extended into the western parcel, providing direct access to the new substation yard.

2.2.2 Substation Specifications and Equipment

The new Hunter Substation will have a breaker-and-a-half configuration with 4 bays, and will include the following major components:

- Connection to four existing 69kV sub-transmission lines;
- Connection to 20 distribution lines (four per switchgear);
- Four 69/12.47kV power transformers;
- Four distribution switchgears; and
- Four 15kV, 3-stages of 2000KVAR capacitor banks.

2.2.3 RPU Property and Rights-of-Way

The Proposed new Hunter Substation will be constructed adjacent to the existing substation site, on city-owned property. The Proposed Project will only affect the substation facility and the sub-transmission and distribution line *getaways*[5]. All the getaways will be located within existing City rights-of-way and easements, and no new land rights will be required.

[5] *Substation getaways* are defined as the segment of an electric power line (transmission, sub-transmission, or distribution) between the connection point with a substation and the first downstream power line support structure located outside of the substation boundary. The first downstream support structure is typically either an overhead support structure (such as wood poles and tubular steel poles), an overhead/underground transition structure (such as a cable riser pole), or an underground vault.

2.3 Proposed Substation Getaways

As outlined above, the proposed new Hunter Substation will be connected to four 69kV sub-transmission lines and 20 distribution lines. The proposed getaways will mirror the existing substation getaways, including re-use of overhead support structures, underground duct banks, and underground vaults where possible. The proposed sub-transmission and distribution getaways are further discussed below and are depicted on Figure 5, Proposed Site Layout Map.

2.3.1 Sub-transmission Line Getaways

As stated above, the new Hunter Substation will be connected to four existing 69kV sub-transmission lines. One of the sub-transmission lines will enter the substation from the west, one from directly east, and the remaining two from the southeast (refer to Figure 5). All four sub-transmission lines will connect to the new substation rack in an overhead position. To facilitate connection of the southern lines into the new substation rack, four new steel poles will be installed within the substation footprint (refer to Figure 5). In addition, two existing wood poles will be replaced with new steel poles (refer to Figure 5). A total of 3 existing wood poles will be removed from service (i.e., not directly replaced), all located within the substation site.

2.3.2 Distribution Line Getaways

As stated above, the new Hunter Substation will connect to 20 12kV distribution lines. All 20 distribution line getaways will be in an underground position, consistent with the current distribution getaways. All but two of the distribution line getaways will enter the new Substation yard from the east or southeast (refer to Figure 5). The remaining two will enter the substation from the west. The new getaways will be constructed by trenching and installation new *duct bank*[6] from the new substation yard until reaching connection points with the existing underground distribution line getaways. Existing distribution line vaults will be re-used for the new getaways.

2.4 Proposed RPU Storage Facility

Once the existing Hunter Substation is removed and the new substation is under operation, the remaining unused space on the eastern parcel will be redeveloped into a storage facility for RPU (refer to Appendix A). The new storage facility will include one new single-story storage structure (25 feet tall, 40 feet wide, and 80 feet long), with a mezzanine, parking, water and sewer connections, office space, and storage space. The storage structure will be made using metal and will primarily be used to store spare substation parts, materials, and equipment. The facility may also be used to store equipment related to capital improvement projects. The storage facility will serve only RPU and will be located within the substation CMU perimeter security wall.

2.5 Landscaping

2.5.1 Landscape Concept

The Landscape Concept for the Project incorporates a number of recommendations, including retention of existing, water efficient landscaping, and utilization of hardscaping options that will require no water. This landscape strategy will help minimize energy and water usage.

[6] *Duct banks* are a grouping, or bundle, of PVC (or other materials) conduits that are surrounded, or encased, in a projective casing. For underground electrical infrastructure, the casing is typically concrete. All underground electrical lines are currently installed within a duct bank system.

Specifically, the existing landscaping along Chicago Avenue will be retained in place, with the exception of eight large trees, which will be replaced. The large trees will be replaced with shorter species that do not interfere with the substation wall or substation security. Existing landscaping along the northern border of the Substation Site would also be retained. By retaining existing landscaping to the greatest extent possible, the site will retain existing visual character and water use will be minimized. Retention of existing landscaping would effectively reduce construction costs and impacts.

Along the northern and western walls, rock will be placed within the space between the perimeter wall and the property line (approximately 5 feet). In addition, synthetic ivy will be utilized along the western perimeter wall as screening for the residents located to the west of the canal.

2.5.2 Landscape Plan

Appendix B contains a Landscape Concept Plan for use in assessing the potential adverse effects of the Project under CEQA. While the Landscape Concept Plan is preliminary and will be revised during final engineering, the Concept Plan provides a vehicle for RPU and public review. The final Landscape and Irrigation Plans will be approved by RPU in consultation with the City of Riverside Public Works department.

3.0 Project Construction

This section includes an overview of the typical methods, equipment, and work force that would be used for construction of the Proposed Project. Construction of the Proposed Project will be conducted by a construction contractor under contract to RPU and is anticipated to take approximately 17 months total to complete. Construction is currently anticipated to begin in the summer of 2022 and be completed by fall of 2023. Unless otherwise noted, construction activities are anticipated to occur between the hours of 7am and 7pm, Monday through Friday, consistent with the City of Riverside Noise Ordinance. If construction is required on one of more Saturdays, construction activities will be limited to the hours between 8am and 5pm, also consistent with the Noise Ordinance.

3.1 Construction Phasing

Construction of the Proposed Project will occur in distinct phasing, in order to complete the Hunter Substation replacement without loss of electric service. Because the Hunter Substation is a distribution substation, it feeds thousands of end users. Therefore, the new Hunter Substation will be constructed adjacent to the existing substation, while the existing substation remains in service. The existing substation will not be de-energized until the new substation is ready to be energized. Table 1 below outlines the general construction phasing.

Table 1: Construction Phasing

Construction Phase [a]	Description	Approximate Duration
1	Mobilization	2 days
2	Material Delivery and Inventory	1 month [b]
3a	Grading and Site Preparation - Western Parcel	2 weeks
3b	Temporary relocation of Sub-transmission Line 3 and distribution Circuit 1222.	2 weeks
4a	Civil Survey and Marking	1 day
4b	Below-Grade Civil Construction for the new Hunter Substation (Western parcel)	2 months
4c	Electrical Below-Grade Construction for the new Hunter Substation (Western Parcel)	1 month
5	Underground Distribution Getaways.	2 months
6a	Above-grade (structural) construction for the new Hunter Substation. (western parcel)	2 months
6b	Above-grade (Electrical) construction for the new Hunter Substation (Western Parcel)	2 months
7	Sub-transmission getaways (overhead).	2 weeks
8	Substation testing, energization, and cutover	2 days
9	Demolition and Salvage of the old Hunter Substation (eastern parcel)	2 months
10	*Grading and site preparation (eastern parcel)*	*1 week*
11	*Below grade construction for the storage facility (eastern parcel)*	*2 months*
12	*Above grade construction for the storage facility (eastern parcel)*	*2 months*

Notes:
[a] While construction phases will occur generally in the order listed, some overlap may occur. The total duration of construction is anticipated to be approximately 17 months.
[b] Construction Phase 2 (material delivery and inventory) will occur simultaneously with phases 3a and 3b. 3a and 3b will occur in succession.
For the purposes of CEQA analysis, construction of the Storage Building was assumed to occur following completion of the new substation. However, this portion of construction may ultimately occur later in the future.

3.2 Substation Construction

Construction of the new Hunter Substation will have four major steps that occur in sequential order:

- Grading and site preparation,
- Below grade construction,
- Above grade construction, and
- Testing, energization, and cutover.

Each of these phases of substation construction are described below.

3.2.1 Mobilization and Set-up (Phase 1)

As the first step of construction, the contractor will mobilize initial crews to the project site, install SWPPP BMPs. The contractor will also locate, identify, and mark-out any existing utilities at the

Project Site. Mobilization and set-up will typically include a small work crew (2-5 workers) and use of standard work trucks, a forklift, a dozer, a compactor, and a water truck.

3.2.2 Material Delivery and Inventory (Phase 2)

Following mobilization and installation of BMPs, material and equipment delivery will begin. As materials and equipment are brought to the site, the construction contractor will carefully inventory all delivered items. While this phase of construction will have a duration of approximately one month, this will occur simultaneously with phases 3a and 3b. It is also important to note that not all project materials and equipment will be delivered at this time; some equipment (such as new transformers) will not be delivered to the site until they are ready to be installed. Construction offices (trailers) will also be delivered to Project Site. Material delivery and inventory will utilize a small work crew (2-5 workers) that will overlap with crews assigned to Phases 3a and 3b. Similarly, the construction equipment utilized will largely overlap with Phases 3a and 3b, with the addition of a forklift.

3.2.3 Grading and Site Preparation (Phases 3a and 3b)

3.2.3.1 Description of Activities

Grading and site development activities would include the following:

- Demolition and/or removal of the buildings, foundations, vegetation, and any other miscellaneous structures located on the western parcel,
- Grading of the new substation site (western parcel) (Phase 3a),
- Construct temporary relocation of sub-transmission Line 3 and distribution Circuit 1222 (Phase 3b),
- Demolition of the existing substation western wall,
- Extension of the northern driveway into the western parcel, and
- Construction of the new CMU substation security wall.

After clearing the western parcel of existing buildings and miscellaneous structures (fencing, concrete steps, remnant foundations, etc.), the existing sub-transmission Line 3 and distribution line Circuit 1222 will be temporarily relocated. This is required because the existing substation getaways for these two lines cross the middle of the western parcel site and grading activities cannot commence until the two lines are temporarily relocated. This relocation is temporary because both lines will ultimately be connected to the new Hunter Substation yard, which will be construction on the western parcel.

Following completion of the line relocations, grading will be performed per design plans to prepare the site for the construction of the relocated 69/12kV substation yard. This phase of the site development work will include grading (cut and fill). Total western parcel cut and fill from grading activities would be approximately 832 cubic yards (net import). To achieve uniform support, the underlying soils may be excavated below the ultimate pad grade, then backfilled and compacted per geotechnical recommendations. Excavation is anticipated to reach a depth of approximately 5 feet.

Following completion of grading activities, the new CMU security wall (which will encompass the

majority of both east and west parcels), and the northern and southern driveway expansions will be constructed. Construction of the new CMU security wall may overlap with underground construction at the western parcel.

3.2.3.2 Typical Construction Work Force

Typical construction work forces for grading and site preparation will be relatively small given the small size of the western parcel. The typical workforce will vary between 5 and 8 workers.

3.2.3.3 Typical Construction Equipment

Site preparation and grading activities will typically include the following construction equipment[7]:

- Dozer
- Grader
- Scraper
- Compactor
- Skip loader
- Backhoe
- Work trucks
- Haul/dump trucks
- Water trucks

In addition, the temporary relocation of sub-transmission Line 4 and distribution Circuit 1222 will require the following equipment:

- Bucket truck
- Drill rig
- Pull rig
- Forklift
- Wire truck
- Work trucks
- Truck-mounted crane

3.2.4 Civil (Below Grade) Construction (Phases 4a, 4b, and 4c)

3.2.4.1 Description of Activities

Prior to starting the civil work on the western parcel, the construction contractor will survey the newly graded parcel to establish a base line and survey grid (Phase 4a). This must be completed prior to commencement of civil construction to ensure project component locations.

[7] Not all equipment would necessarily be needed, and not all equipment would be used simultaneously.

Following completion of grading and site preparation activities on the western parcel, below grade work will commence. Below grade construction will include the following steps:

- Drilling and pouring piers, footings, foundations, and equipment and structure pads (Phase 4b). This includes drilling and installation of foundations for new sub-transmission poles.
- Installation of underground equipment, cable trench from the outdoor equipment to the control room, installation of the ground grid, and wiring (Phase 4c).

It is important to note that the underground distribution line getaways would occur at least partially concurrent with below grade substation construction.

3.2.4.2 Typical Construction Work Force

Typical construction work forces for below grade construction will be relatively small give the small size of the site. The typical workforce will vary between 3 and 12 workers, with an average of 7 workers on site during this phase.

3.2.4.3 Typical Construction Equipment

Below grade construction activities will typically include the following construction equipment:

- Excavator
- Backhoe
- Drill Rig
- Skip loader
- Forklift
- Cement truck
- Work trucks,
- Haul/dump trucks
- Water trucks

3.2.5 Above Grade Construction (Phase 6a and 6b)

3.2.5.1 Description of Activities

Following completion of the foundations and below ground substation facilities, the above-ground equipment will be installation (Phase 6a). Specifically, the above grade construction will include installation of the new 69/12kV transformers, switchgear, capacitor banks, other substation structures and equipment, and the new control house.

Following installation of the above-grade substation equipment, wiring of the new equipment is performed, including pulling and terming control cable, comm cable, and grounds (Phase 6b). The control/protection panels, equipment, and batteries will also be installed and wired in the control house as part of Phase 6b.

3.2.5.2 Typical Construction Work Force

Typical construction work forces for the above grade construction will be the largest workforce for the Proposed Project. The typical workforce can vary between 10 and 15 workers, with an average of 12 workers on site during this phase.

3.2.5.3 Typical Construction Equipment

Above grade construction activities will typically include the following construction equipment:

- Bucket truck or manlift
- Line truck
- Boom truck
- Large Crane
- Stringing rig
- Cable reel trailer
- Relay/ Telecommunication/ Wiring Van
- SF_6 gas cart (electric)
- Portable generator
- 100-hp Oil Processing Truck
- Work trucks
- Water trucks

3.2.6 Energization and Cutover (Phase 8)

3.2.6.1 Description of Activities

Following completion of the above ground substation facilities and equipment installation, relay testing, substation cutover, and energization occur. These are the final steps for construction of the new Hunter Substation. Prior to cutover and energization of the new substation, the contractor must obtain an outage of the affected lines. The outage is a temporary de-energization of each affected line so that the new substation can be connected to the Grid.

3.2.6.2 Typical Construction Work Force

Typical construction work forces for the final wiring, testing, and energization of the substation will be relatively small. The typical workforce can vary between 4 and 8 workers, with an average of 6 workers on site during this phase.

3.2.6.3 Typical Construction Equipment

Final substation wiring, testing, and energization activities will typically include the following construction equipment:

- Relay/ Telecommunication/ Wiring Van

- Wire truck
- Line truck
- Bucket truck
- Work trucks

3.3 Substation Getaways

3.3.1 Sub-transmission Line Getaways (Phase 7)

3.3.1.1 Description of Activities

The new Hunter Substation will connect to the same four 69kV sub-transmission lines that feed the existing Hunter Substation. As with the existing getaways, the new sub-transmission getaways will be in an overhead position. In order to connect sub-transmission Line 4 to the new substation rack, a new sub-transmission pole will need to be installed in the southwest corner of the substation site (refer to Figure 5). Existing wood sub-transmission structures will be replaced with new steel structures.

Otherwise, the new sub-transmission getaways will be installed from new and existing steel sub-transmission poles to the new substation rack (refer to Figure 5). New conductor will be strung from the existing poles and connected to the new substation rack. The specific order of connecting and energizing the sub-transmission lines will be based on final construction plans and coordination with RPU for system outages.

3.3.1.2 Typical Construction Work Force

Typical construction work forces for the sub-transmission line getaways will be relatively small. The typical workforce can vary between 4 and 6 workers, with an average of 5 workers on site during this phase.

3.3.1.3 Typical Construction Equipment

The sub-transmission line getaways will be constructed using the following construction equipment:

- Stringing rig
- Cable reel trailer
- Drill rig
- Truck-mounted crane
- Wire truck
- Line truck
- Haul/Dump trucks
- Bucket truck
- Work trucks

3.3.2 Distribution Line Getaways (Phase 5)

3.3.2.1 Description of Activities

The new hunter substation distribution line getaways will be in an underground position, similar to the existing getaways. The new getaways will be installed within a combination of new duct bank (in new trenches) and existing duct banks. New trenching and duct bank installation will occur mainly on the western parcel and will continue until intercepting the existing distribution line getaways at various location on the eastern parcel (refer to Figure 5).

3.3.2.2 Typical Construction Work Force

Typical construction work forces for the distribution line getaways will be larger than for the sub-transmission line getaways, because they will be installed in an underground position. The typical workforce can vary between 4 and 12 workers, with an average of 10 workers on site during this phase.

3.3.2.3 Typical Construction Equipment

The distribution line getaways will be constructed using the following construction equipment:

- Puller/ tensioner
- Cable reel trailer
- Backhoe
- Truck-mounted crane
- Concrete truck
- Haul/Dump trucks
- Water truck
- Work trucks

3.4 Demolition and Salvage of the Existing Substation (Phase 9)

3.4.1 Description of Activities

Following energization of the new Hunter Substation, the old substation will be dismantled and removed. First, the contractor will locate and isolate any existing utilities and grounds. All above grade equipment will then be removed and subsequently re-used at other RPU facilities, stored as back-up equipment, recycled, or as the last option disposed at a licensed facility. Paint and other building materials will be tested for regulated or hazardous materials such as asbestos and lead-based paint. Any such materials will be removed and disposed according to all applicable federal, state, and location regulations.

Following removal of all the aboveground equipment, the below ground facilities and foundations will be removed. Affected soils will be tested if signs of potential contamination are present (i.e., soil staining and/or odor). Again, any equipment or materials that can be salvaged for re-use or use as back-up will treated as such. Inert materials will be sent to a recycling facility, where

appropriate, or disposed at a licensed landfill facility. All hazardous or otherwise regulated wastes, such as used transformer oils and impacted soils, will be disposed of at an appropriately licensed facility according to applicable local, state, and federal law.

3.4.2 Typical Construction Work Force

Typical construction work forces for the demolition and equipment removal at the existing Hunter Substation will vary between 8 and 12 workers, with an average of 10 workers on site during this phase.

3.4.3 Typical Construction Equipment

The sub-transmission line getaways will be constructed using the following construction equipment:

- Jackhammer
- Flatbed truck
- Crane or truck-mounted crane
- Line trucks
- Bucket trucks/ Manlift
- Forklift
- Excavator
- Haul/dump trucks
- Water truck
- Work trucks

3.5 Landscaping

Following completion of the substation construction, landscaping will be installed pursuant to the final approved landscape plans (refer to the preliminary Landscape Concept Plan in Appendix B). The landscaped areas will be prepped, including installation of irrigation and minor civil construction. Plantings will be conducted by hand for the most part, with larger shrubs or trees being placed with the assistance of a bobcat or similar small construction equipment. Ground cover may also be installed, and could include crushed rock, mulch, and/or artificial turf. Landscaping will include a small crew of 2-5 workers and will utilize standard work trucks and a small excavator or backhoe, as needed. Landscaping will occur concurrent with other construction tasks, after the substation (CMU block) security wall is completed.

3.6 Storage Facility (Phases 10 – 12)

For the purposes of CEQA review, Phases 10 through 12 are assumed to occur immediately following Phases 1 through 9. However, the Storage Facility may be constructed in the future instead.

3.6.1 Site Preparation and Grading of the Eastern Parcel (Phase 10)

After removal of the old Hunter Substation buildings, structures, equipment, and foundations (see Phase 9 above), the eastern parcel site will be graded per design plans to prepare the site for the construction of the storage facility. This phase of the site development work will include grading to remove and export excess material from the site and import suitable material, as needed. Total cut and fill for the eastern parcel is estimated to be 320 cubic yards (net fill). To achieve uniform support, the underlying soils may be over excavated below ultimate pad grade, then backfilled and compacted per geotechnical recommendations. All grading will be conducted pursuant to the approved grading plans. Site preparation and grading of the eastern parcel will utilize similar equipment and work force as listed under Phase 3a (Hunter Substation Site Preparation and Grading).

3.6.2 Storage Facility Below Grade (Civil) Construction (Phase 11)

Following Site Development, the storage facility structure foundation and underground utility connections will be installed. Storage facility below grade construction will utilize similar equipment and work force as listed under Phase 4b (Hunter Substation Below-Grade Construction).

3.6.3 Storage Facility Above Grade Construction (Phase 12)

As the final step of storage facility construction, the storage facility structure will be installed on the foundation. Final cleanup and surface treatments will be conducted, and final construction demobilization will occur. Storage facility above grade construction and final demobilization will utilize similar equipment and work force as listed under Phases 6a (Hunter Substation Site Above Grade Construction) and Phase 1 (Mobilization and Set-up).

4.0 Project Operations and Maintenance

This section describes the activities relating to operation and maintenance of the Proposed Project facilities; including the new Hunter Substation and the new Storage Facility. In reference to the new Hunter Substation, this section also includes a comparison to existing substation operation and maintenance activities.

4.1 Substation Operations

The proposed new Hunter Substation will be an unmanned substation. In general, routine substation operations will be commensurate with current operation and maintenance of the existing Hunter Substation. However, because the proposed Hunter Substation will be constructed with new parts and equipment, it will require less maintenance and repair when compared to the existing, aging Hunter Substation. The Proposed Hunter Substation will require a single pickup truck visiting the site a few times a week for switching, as well as several larger substation construction and maintenance trucks visiting the substation several times a year for substation equipment maintenance. Substation maintenance activities typically include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity and preventive maintenance. In general, routine substation maintenance is expected to necessitate approximately six trips per year by a two- to four-person crew at the Hunter Substation site. Routine substation operations will require one or two workers in a light

utility truck to visit the substation on a weekly basis. Typically, a major maintenance inspection will take place annually, requiring approximately 10 personnel for approximately one week.

Routine maintenance for vegetation clearing/trimming would occur on an as-needed basis for purposes of safety, access, and aesthetics. Vegetation maintenance activities would typically involve the presence of one to two small maintenance vehicles and one or more employees to clear or trim vegetation to achieve the minimum working space around the substation facilities. It is not anticipated that additional full-time RPU staff would be required for operation or maintenance purposes at the Proposed new Hunter Substation.

4.2 Storage Facility Operations

The Hunter Substation Storage facility will be unmanned, with deliveries and pick-ups occurring monthly, on average. Operation of the storage facility will not require the addition of new or otherwise additional staff or workers.

Because the existing landscaping will be retained, water usage for landscaping is not anticipated to be required beyond what is currently required. The Project will use potable water provided by the RPU – Water Division using existing infrastructure. No new infrastructure or water source will be required.

5.0 Required Approvals

The City of Riverside the lead agency for the Proposed Project. In addition to the required approval from the RPU Board and the City Council, RPU will obtain approval for the Proposed Project from other Federal, State, and City departments, as required. Table 2, Anticipated Potential Permit, Approval, and Consultation Requirements identifies these other permits, approvals, and licenses that RPU anticipates being required for the Proposed Project.

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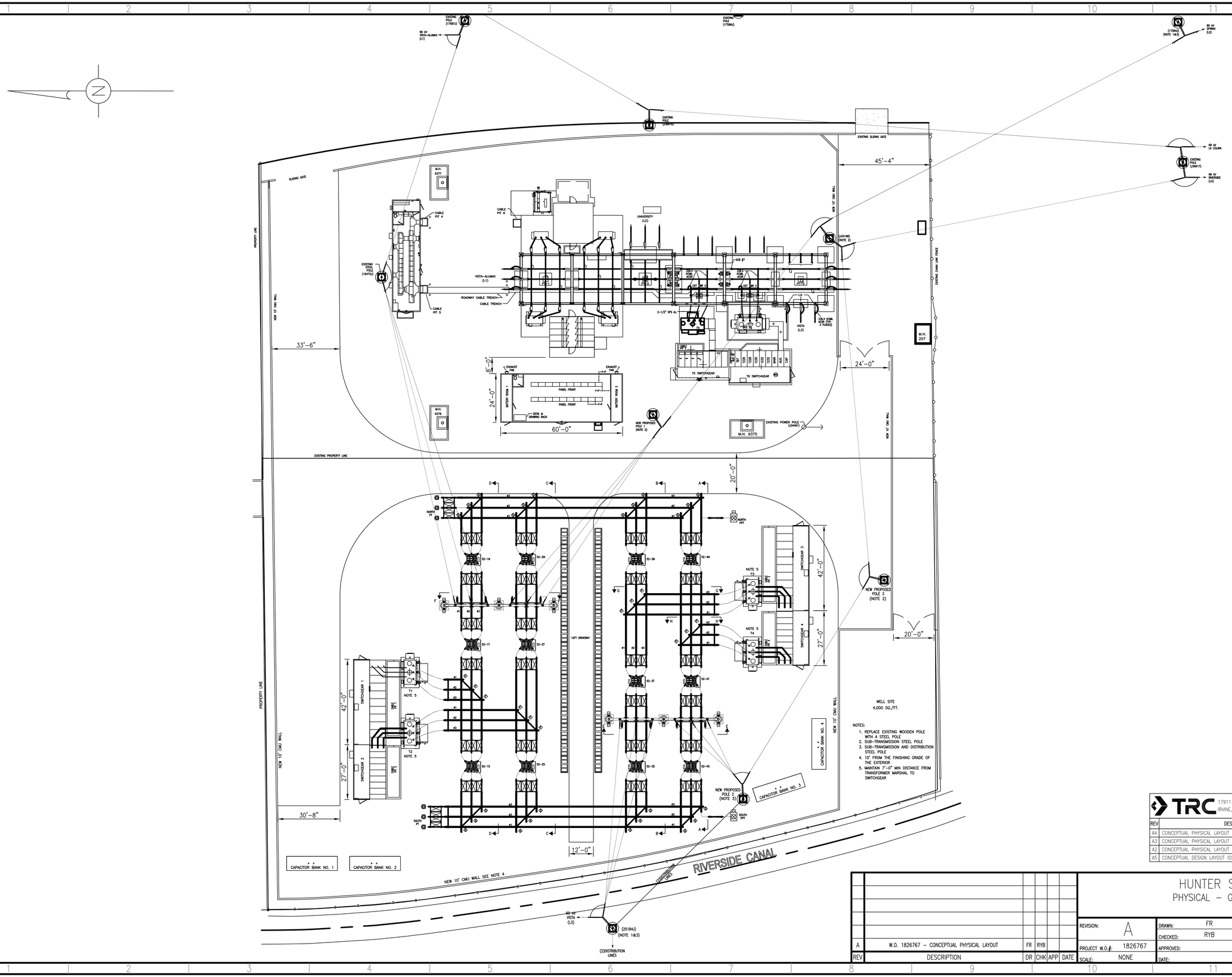
Table 2: Permits and Approvals

Permit/ Approval/ Consultation	Agency	Jurisdiction/ Purpose
Grading Permit	City of Riverside	Grading at the Hunter Substation site.
Wall Permit	City of Riverside	Installation of perimeter security walls.
Building Permit & Certificate of Occupancy	City of Riverside	Construction and operation of storage building.
Encroachment Permit and Traffic Control Plans	City of Riverside	Construction within, under, or over City roadways.
NPDES – General Construction Permit	State Water Resources Control Board (SWRCB)	Stormwater discharges associated with construction activities disturbing more than one acre of land.

APPENDIX A
Proposed Hunter Substation General Arrangement Drawing



NOTES:

1. REPLACE EXISTING WOODEN POLE WITH A STEEL POLE
2. SUB-TRANSMISSION STEEL POLE
3. SUB-TRANSMISSION AND DISTRIBUTION STEEL POLE
4. 10' FROM THE FINISHING GRADE OF THE EXTERIOR
5. MAINTAIN 7'-0" MIN DISTANCE FROM TRANSFORMER MARSHAL TO SWITCHGEAR

PRELIMINARY
DESIGN FOR CLIENT REVIEW
NOT FOR CONSTRUCTION

TRC 17911 VON KARMAN AVE., SUITE 400 IRVINE, CA 92614

PROJECT NO: 313254

REV	DESCRIPTION	DATE	DES	CHK	APP
A4	CONCEPTUAL PHYSICAL LAYOUT 30% ISSUE FOR REVEIW	12/19	GAR	FR	
A3	CONCEPTUAL PHYSICAL LAYOUT ISSUE FOR REVEIW	11/11/19	FR	RYB	
A2	CONCEPTUAL PHYSICAL LAYOUT ISSUE FOR USE	9/13/19	FR	RYB	
A5	CONCEPTUAL DESIGN LAYOUT ISSUE FOR REVIEW	1/30	GAR	FLR	

REV	DESCRIPTION	DR	CHK	APP	DATE
A	W.O. 1826767 – CONCEPTUAL PHYSICAL LAYOUT	FR	RYB		

HUNTER SUBSTATION
PHYSICAL – GENERAL LAYOUT

REVISION: A	DRAWN: FR	DRAWING NO. HUSOP1200-01	WATER | ENERGY | LIFE
PROJECT W.O.#: 1826767	CHECKED: RYB	SHEET: 1 OF 1	RIVERSIDE PUBLIC UTILITIES
SCALE: NONE	APPROVED:	W.O. NO.: 1826767	
	DATE:		

APPENDIX B
Preliminary Landscape Concept Diagram

PROPOSED CAST IN PLACE MONUMENT SIGN, SEE DETAILS THIS SHEET

PROPOSED BOULDER WORK "KEY #1"

PROPOSED BOULDER WORK "KEY #2"

PROPOSED BOULDER WORK "KEY #3"

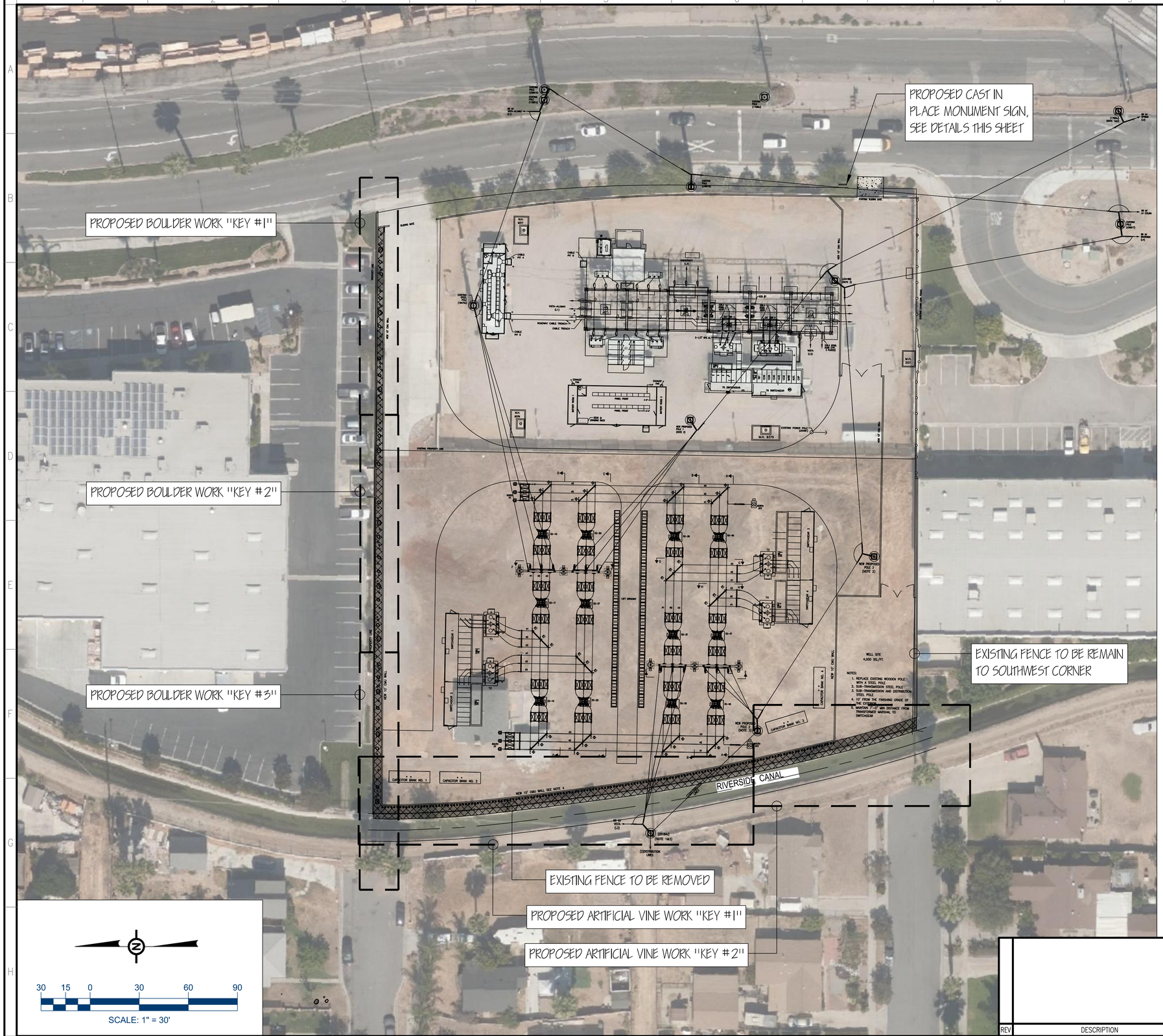
EXISTING FENCE TO BE REMAIN TO SOUTHWEST CORNER

EXISTING FENCE TO BE REMOVED

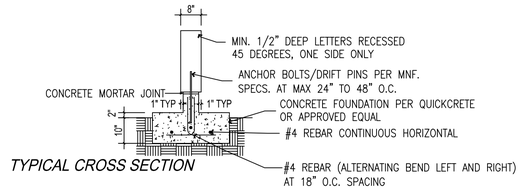
PROPOSED ARTIFICIAL VINE WORK "KEY #1"

PROPOSED ARTIFICIAL VINE WORK "KEY #2"

RIVERSIDE CANAL



ELEVATION



TYPICAL CROSS SECTION

CONTRACTOR SHALL PROVIDE SHOP DRAWING OF LETTER AND LOGO LAYOUT OF SIGN FOR CITY ENGINEER'S REVIEW AND APPROVAL.
SIGN SHALL BE COATED WITH THE "WORLD'S BEST GRAFFITI COATING" -NO. WB007 PER THE MANUFACTURERS RECOMMENDATIONS.
HTTP://WWW.GRAFFITIREMOVALINC.COM. OR CITY APPROVED EQUAL.

Monumental Sign

SCALE: NTS

PRELIMINARY
DESIGN FOR CLIENT REVIEW
NOT FOR CONSTRUCTION

TRC
17911 VON KARMAN AVE., SUITE 400
IRVINE, CA 92614

PROJECT NO: 313254

REV	DESCRIPTION	DATE	DES	CHK	APP
C	LANDSCAPE IFU	5/26/20	MJR	MJR	
B	LANDSCAPE EXHIBIT	3/13/20	MJR	MJR	
A	CONCEPTUAL DESIGN LAYOUT ISSUE FOR REVIEW	8/12/19	FR	RYB	

HUNTER SUBSTATION
LANDSCAPE EXHIBIT
LOCATION MAP AND KEY

REV	DESCRIPTION	DR	CHK	APP	DATE

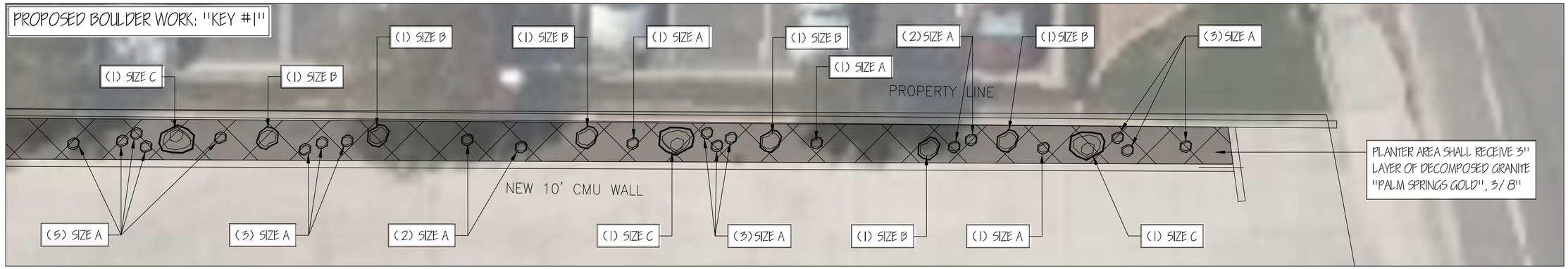
REVISION: A
PROJECT W.O.#: 1826767
SCALE: AS NOTED

DRAWN: MJR
CHECKED: MJR
APPROVED:
DATE: 05/26/20

DRAWING NO. L-001
SHEET: 1 OF 3
W.O. NO.: 1826767

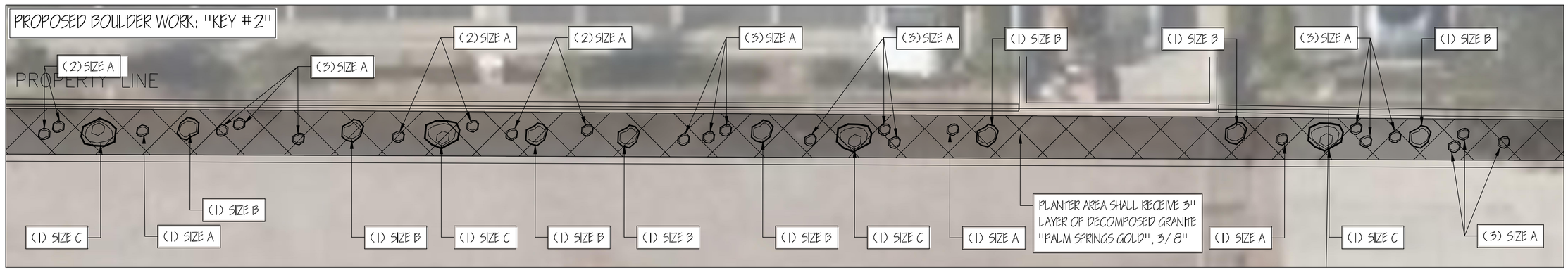
WATER | ENERGY | LIFE
RIVERSIDE PUBLIC UTILITIES

PROPOSED BOULDER WORK: "KEY #1"



MATCHLINE "KEY #2"

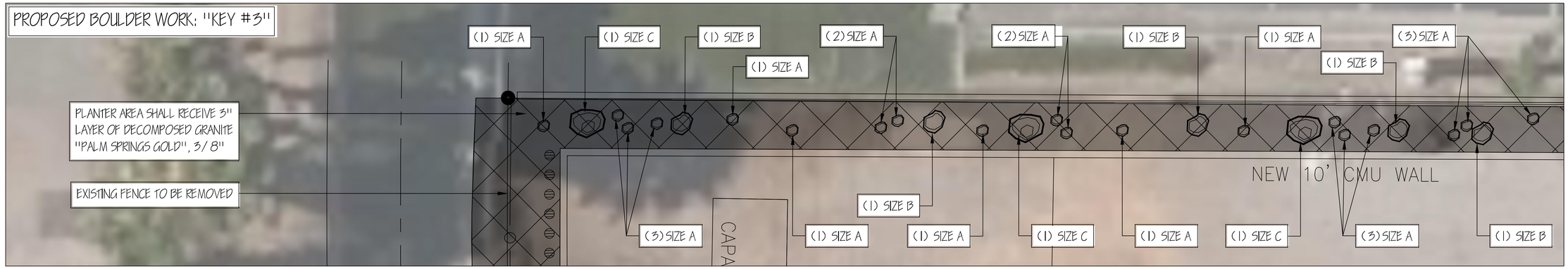
PROPOSED BOULDER WORK: "KEY #2"



MATCHLINE "KEY #3"

MATCHLINE "KEY #1"

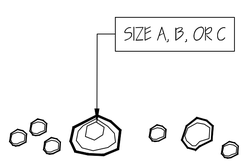
PROPOSED BOULDER WORK: "KEY #3"



MATCHLINE "KEY #2"

PLANTER BED AREAS: ALL AREAS TO RECEIVE 3" LAYER OF DECOMPOSED GRANITE "PALM SPRINGS GOLD", 3/8"
TOTAL AREA COVERAGE (NORTH PLANTING BED) = APPROXIMATELY 1,500 SQ. FT.

NOTE:
PROVIDE COMMERCIAL GRADE PERMEABLE-TYPE SPUNBONDED POLYESTER WEED FABRIC UNDER ALL GRAVEL BED AREAS TO ENSURE SEPARATION FROM SOIL.



LARGE BOULDERS: 18" - 36" DIAMETER
A = 18", B = 24"- 30", C = 36"
"PINE CREEK"

SIZE A = 64 BOULDERS TOTAL
SIZE B = 19 BOULDERS TOTAL
SIZE C = 10 BOULDERS TOTAL

NOTE: LOCATIONS ARE APPROXIMATE AND FIELD ADJUSTMENTS MAY BE NECESSARY

GRANITE AVAILABLE THROUGH:
SEPULVEDA BUILDING MATERIALS
1485 S. WATERMAN AVENUE
SAN BERNARDINO, CA 92408 (800) 394-4726

N

5 2.5 0 5 10 20

SCALE: 1" = 5'

PRELIMINARY
DESIGN FOR CLIENT REVIEW
NOT FOR CONSTRUCTION

TRC
17911 VON KARMAN AVE., SUITE 400
IRVINE, CA 92614

PROJECT NO: 313254

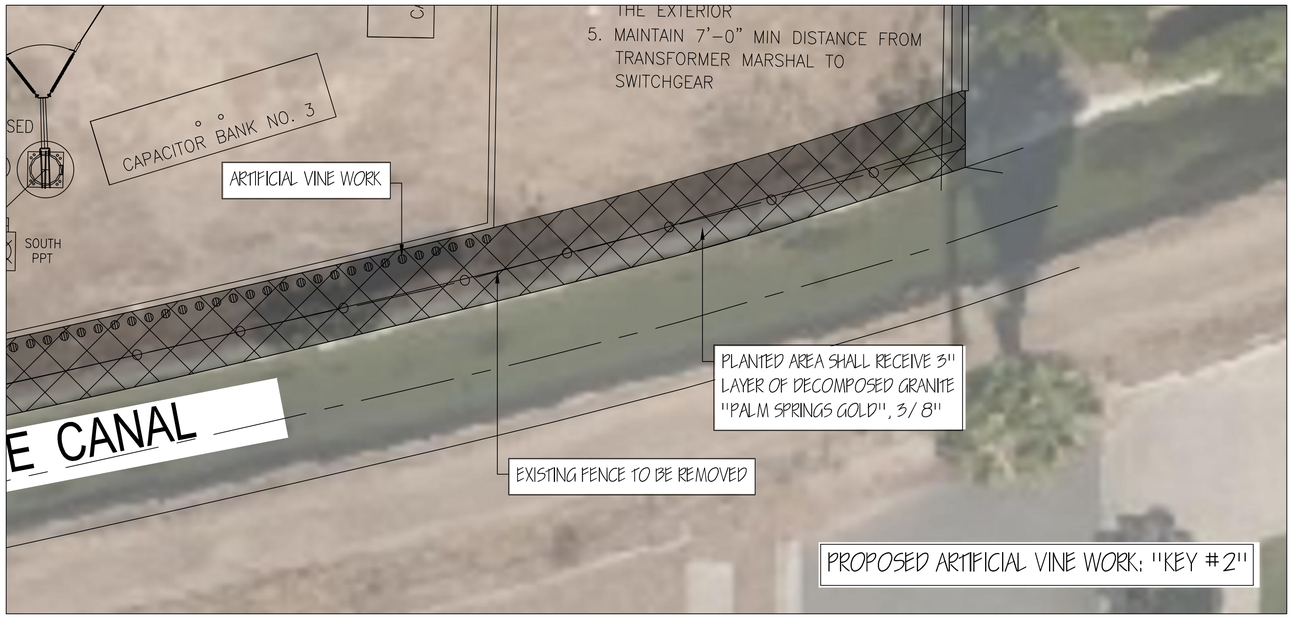
REV	DESCRIPTION	DATE	DES	CHK	APP
C	LANDSCAPE IFU	5/26/20	MJR	MJR	
B	LANDSCAPE EXHIBIT	3/13/20	MJR	MJR	
A	CONCEPTUAL DESIGN LAYOUT ISSUE FOR REVIEW	8/12/19	FR	RYB	

HUNTER SUBSTATION
LANDSCAPE EXHIBIT
PROPOSED BOULDER WORK AND LAYOUT PLAN

REVISION: A	DRAWN: MJR	DRAWING NO. L-002	WATER | ENERGY | LIFE
PROJECT W.O.#: 1826767	CHECKED: MJR	SHEET: 2 OF 3	CITY OF RIVERSIDE PUBLIC UTILITIES
SCALE: AS NOTED	APPROVED:	W.O. NO.: 1826767	
	DATE: 05/26/20		

REV	DESCRIPTION	DR	CHK	APP	DATE

MATCHLINE "KEY #2"



MATCHLINE "KEY #1"

PLANTER BED AREAS: ALL AREAS TO RECEIVE 3" LAYER OF DECOMPOSED GRANITE "PALM SPRINGS GOLD", 3/8"
TOTAL AREA COVERAGE (WEST PLANTING BED) = APPROXIMATELY 2,700 SQ. FT.

NOTE:
PROVIDE COMMERCIAL GRADE PERMEABLE-TYPE SPUNBONDED POLYESTER WEED FABRIC UNDER ALL GRAVEL BED AREAS TO ENSURE SEPARATION FROM SOIL.

GRANITE AVAILABLE THROUGH:
SEPULVEDA BUILDING MATERIALS
1485 S. WATERMAN AVENUE
SAN BERNARDINO, CA 92408 (800) 394-4726

ARTIFICIAL VINE TO BE INSTALLED BY IVY-IT.COM

ADDITIONAL NOTES:
ARTIFICIAL VINES SHALL BE FULL-COVERAGE ARTIFICIAL VINE PANELS. THE CONTRACTOR WILL BE RESPONSIBLE FOR PURCHASING ARTIFICIAL FROM IVY-IT COMPANY. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION, MAINTENANCE, AND WARRANTY OF THE ARTIFICIAL VINES WITH IVY-IT.COM. VINES SHALL BE FASTENED TO MASONRY WALL WITH WALL ANCHORS OR FASTENERS. PROVIDE SAMPLE OF VINE MATERIAL AND ANCHORS OR FASTENERS TO CITY ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

FINAL HEIGHT OF WALL MAY VARY. CONTRACTOR SHALL FIELD VERIFY WALL HEIGHT PRIOR TO PROCURING AND INSTALLING ARTIFICIAL VINES.

N

8 4 0 8 16 24

SCALE: 1" = 8'

PRELIMINARY
DESIGN FOR CLIENT REVIEW
NOT FOR CONSTRUCTION

TRC
17911 VON KARMAN AVE., SUITE 400
IRVINE, CA 92614

PROJECT NO: 313254

REV	DESCRIPTION	DATE	DES	CHK	APP
C	LANDSCAPE IFU	5/26/20	MJR	MJR	
B	LANDSCAPE EXHIBIT	3/13/20	MJR	MJR	
A	CONCEPTUAL DESIGN LAYOUT ISSUE FOR REVIEW	8/12/19	FR	RYB	

REV	DESCRIPTION	DR	CHK	APP	DATE

HUNTER SUBSTATION
LANDSCAPE EXHIBIT
PROPOSED ARTIFICIAL VINE WORK AND LAYOUT PLAN

REVISION: A
PROJECT W.O.#: 1826767
SCALE: AS NOTED
DRAWN: MJR
CHECKED: MJR
APPROVED:
DATE: 05/26/20
DRAWING NO. L-003
SHEET: 3 OF 3
W.O. NO.: 1826767

WATER | ENERGY | LIFE
RIVERSIDE PUBLIC UTILITIES

APPENDIX B

Air Quality Modeling Files

Hunter Substation Replacement Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	50.00	User Defined Unit	2.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2023
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 - Project-specific inputs.

Construction Phase - Project-specific schedule.

Consumer Products -

Area Coating -

Area Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	220.00	13.00
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tblConstructionPhase	NumDays	220.00	60.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00

tblOffRoadEquipment	UsageHours	8.00	12.00
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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	0.1404	2.2398	1.2018	3.8200e-003	0.0542	0.0543	0.1085	0.0146	0.0500	0.0646	0.0000	353.2199	353.2199	0.0700	0.0000	354.9703
2022	0.0924	1.6053	0.9101	3.0700e-003	0.0748	0.0297	0.1045	0.0167	0.0274	0.0441	0.0000	285.4262	285.4262	0.0546	0.0000	286.7906
Maximum	**0.1404**	**2.2398**	**1.2018**	**3.8200e-003**	**0.0748**	**0.0543**	**0.1085**	**0.0167**	**0.0500**	**0.0646**	**0.0000**	**353.2199**	**353.2199**	**0.0700**	**0.0000**	**354.9703**

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	0.1404	2.2398	1.2018	3.8200e-003	0.0542	0.0543	0.1085	0.0146	0.0500	0.0646	0.0000	353.2198	353.2198	0.0700	0.0000	354.9701
2022	0.0924	1.6053	0.9101	3.0700e-003	0.0748	0.0297	0.1045	0.0167	0.0274	0.0441	0.0000	285.4261	285.4261	0.0546	0.0000	286.7905
Maximum	**0.1404**	**2.2398**	**1.2018**	**3.8200e-003**	**0.0748**	**0.0543**	**0.1085**	**0.0167**	**0.0500**	**0.0646**	**0.0000**	**353.2198**	**353.2198**	**0.0700**	**0.0000**	**354.9701**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2021	6-30-2021	0.9742	0.9742
2	7-1-2021	9-30-2021	0.7702	0.7702
3	10-1-2021	12-31-2021	0.6261	0.6261
4	1-1-2022	3-31-2022	0.5501	0.5501
5	4-1-2022	6-30-2022	0.7027	0.7027
6	7-1-2022	9-30-2022	0.4442	0.4442
		Highest	0.9742	0.9742

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	6.0000e-005	1.0000e-005	6.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0000e-005**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**0.0000**	**1.3200e-003**

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	6.0000e-005	1.0000e-005	6.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0000e-005**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**0.0000**	**1.3200e-003**

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

3.0 Construction Detail

Construction Phase

Hunter Substation Replacement Project - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1 - Mobilization & Setup	Site Preparation	4/1/2021	4/2/2021	5	2	
2	2 - Material Delivery & Inventory	Site Preparation	4/4/2021	5/3/2021	5	21	
3	3a - Grading & Site Prep (Western Parcel)	Grading	4/4/2021	4/17/2021	5	10	
4	3b - Temporary Relocation of Existing Lines	Site Preparation	4/18/2021	5/3/2021	5	11	
5	4a - Civil Survey & Marking	Building Construction	5/4/2021	5/5/2021	5	2	
6	4b - Below-Grade Civil Construction (Western Parcel)	Building Construction	5/6/2021	7/6/2021	5	44	
7	4c - Below-Grade Electrical Construction (Western Parcel)	Building Construction	7/7/2021	8/6/2021	5	23	
8	5 - Underground Distribution Getaways	Building Construction	8/7/2021	10/6/2021	5	60	
9	6a - Above-grade Structural Construction (Western Parcel)	Building Construction	10/7/2021	12/6/2021	5	60	
10	6b - Above-grade Electrical Construction (Western Parcel)	Building Construction	12/7/2021	2/6/2022	5	61	
11	7 - Sub-Transmission Getaways	Building Construction	2/7/2022	2/20/2022	5	13	
12	8 - Substation Testing, Energization, & Cutover	Building Construction	2/21/2022	2/23/2022	5	2	
13	9 - Demolition of the Old Substation	Demolition	2/24/2022	4/25/2022	5	60	
14	10 - Grading and Site Prep (Eastern Parcel)	Grading	4/26/2022	5/1/2022	5	5	
15	11 - Below-Grade Construction for the Storage Facility	Building Construction	5/2/2022	7/1/2022	5	60	
16	12 - Above-Grade Construction for the Storage Facility	Building Construction	7/2/2022	9/1/2022	5	61	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
1 - Mobilization & Setup	Rollers	1	6.00	80	0.38
1 - Mobilization & Setup	Rough Terrain Forklifts	1	6.00	100	0.40
1 - Mobilization & Setup	Rubber Tired Dozers	1	6.00	247	0.40
2 - Material Delivery & Inventory	Forklifts	1	2.40	89	0.20
3a - Grading & Site Prep (Western Parcel)	Graders	1	10.00	187	0.41
3a - Grading & Site Prep (Western Parcel)	Rollers	1	10.00	80	0.38
3a - Grading & Site Prep (Western Parcel)	Rubber Tired Dozers	1	10.00	247	0.40
3a - Grading & Site Prep (Western Parcel)	Scrapers	2	10.00	367	0.48
3a - Grading & Site Prep (Western Parcel)	Tractors/Loaders/Backhoes	2	10.00	97	0.37
3a - Grading & Site Prep (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
3b - Temporary Relocation of Existing Lines	Bore/Drill Rigs	1	10.00	221	0.50
3b - Temporary Relocation of Existing Lines	Cranes	1	10.00	231	0.29
3b - Temporary Relocation of Existing Lines	Rough Terrain Forklifts	1	10.00	100	0.40
4a - Civil Survey & Marking	Off-Highway Trucks	0	10.00	402	0.38
4b - Below-Grade Civil Construction (Western Parcel)	Bore/Drill Rigs	1	10.00	221	0.50
4b - Below-Grade Civil Construction (Western Parcel)	Rough Terrain Forklifts	1	10.00	100	0.40
4b - Below-Grade Civil Construction (Western Parcel)	Tractors/Loaders/Backhoes	2	10.00	97	0.37
4b - Below-Grade Civil Construction (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
4c - Below-Grade Electrical Construction (Western Parcel)	Cranes	1	10.00	231	0.29
4c - Below-Grade Electrical Construction (Western Parcel)	Excavators	1	10.00	158	0.38
4c - Below-Grade Electrical Construction (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37

5 - Underground Distribution Getaways	Cranes	1	10.00	231	0.29
5 - Underground Distribution Getaways	Tractors/Loaders/Backhoes	2	10.00	97	0.37
6a - Above-grade Structural Construction (Western Parcel)	Cranes	1	12.00	231	0.29
6b - Above-grade Electrical Construction (Western Parcel)	Off-Highway Trucks	1	24.00	100	0.38
7 - Sub-Transmission Getaways	Bore/Drill Rigs	1	10.00	221	0.50
7 - Sub-Transmission Getaways	Cranes	1	10.00	231	0.29
8 - Substation Testing, Energization, & Cutover	Off-Highway Trucks	0	10.00	402	0.38
9 - Demolition of the Old Substation	Cranes	1	6.00	231	0.29
9 - Demolition of the Old Substation	Excavators	2	6.00	158	0.38
9 - Demolition of the Old Substation	Excavators	1	10.00	158	0.38
9 - Demolition of the Old Substation	Rough Terrain Forklifts	1	6.00	100	0.40
10 - Grading and Site Prep (Eastern Parcel)	Graders	1	10.00	187	0.41
10 - Grading and Site Prep (Eastern Parcel)	Rollers	1	10.00	80	0.38
10 - Grading and Site Prep (Eastern Parcel)	Rubber Tired Dozers	1	10.00	247	0.40
10 - Grading and Site Prep (Eastern Parcel)	Scrapers	1	10.00	367	0.48
10 - Grading and Site Prep (Eastern Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
10 - Grading and Site Prep (Eastern Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
11 - Below-Grade Construction for the Storage Facility	Bore/Drill Rigs	1	10.00	221	0.50
11 - Below-Grade Construction for the Storage Facility	Tractors/Loaders/Backhoes	2	10.00	97	0.37
11 - Below-Grade Construction for the Storage Facility	Tractors/Loaders/Backhoes	1	10.00	97	0.37
12 - Above-Grade Construction for the Storage Facility	Cranes	1	12.00	231	0.29

Trips and VMT

Hunter Substation Replacement Project - South Coast AQMD Air District, Annual

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
1 - Mobilization & Setup	3	10.00	95.00	4.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
2 - Material Delivery & Inventory	1	8.00	30.00	116.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
3a - Grading & Site Prep (Western Parcel)	8	16.00	50.00	104.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
3b - Temporary Relocation of Existing	3	10.00	75.00	30.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4a - Civil Survey & Marking	0	6.00	30.00	0.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4b - Below-Grade Civil Construction (Western	5	20.00	95.00	488.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4c - Below-Grade Electrical Construction	3	16.00	95.00	120.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
5 - Underground Distribution Getaways	3	20.00	125.00	1,200.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
6a - Above-grade Structural Constructio	1	20.00	210.00	120.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
6b - Above-grade Electrical Construction	1	30.00	141.00	122.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
7 - Sub-Transmission Getaways	2	10.00	171.00	26.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
8 - Substation Testing, Energization, & Cutov	0	12.00	171.00	0.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
9 - Demolition of the Old Substation	5	20.00	161.00	960.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
10 - Grading and Site Prep (Eastern Parcel)	6	16.00	65.00	40.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
11 - Below-Grade Construction for the St	4	20.00	95.00	480.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
12 - Above-Grade Construction for the St	1	16.00	192.00	122.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 1 - Mobilization & Setup - 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	1.0200e-003	0.0109	6.1600e-003	1.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	0.9629	0.9629	3.1000e-004	0.0000	0.9707
Total	**1.0200e-003**	**0.0109**	**6.1600e-003**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**0.9629**	**0.9629**	**3.1000e-004**	**0.0000**	**0.9707**

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	1.0000e-005	5.2000e-004	1.1000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1493	0.1493	1.0000e-005	0.0000	0.1496
Vendor	1.5000e-004	6.1200e-003	1.4500e-003	1.0000e-005	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.7776	0.7776	1.0000e-004	0.0000	0.7801
Worker	4.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0956	0.0956	0.0000	0.0000	0.0956
Total	**2.0000e-004**	**6.6700e-003**	**1.9100e-003**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**2.4000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**1.0226**	**1.0226**	**1.1000e-004**	**0.0000**	**1.0253**

3.2 1 - Mobilization & Setup - 2021

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	1.0200e-003	0.0109	6.1600e-003	1.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	0.9629	0.9629	3.1000e-004	0.0000	0.9707
Total	**1.0200e-003**	**0.0109**	**6.1600e-003**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**0.9629**	**0.9629**	**3.1000e-004**	**0.0000**	**0.9707**

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	1.0000e-005	5.2000e-004	1.1000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1493	0.1493	1.0000e-005	0.0000	0.1496
Vendor	1.5000e-004	6.1200e-003	1.4500e-003	1.0000e-005	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.7776	0.7776	1.0000e-004	0.0000	0.7801
Worker	4.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0956	0.0956	0.0000	0.0000	0.0956
Total	**2.0000e-004**	**6.6700e-003**	**1.9100e-003**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**2.4000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**1.0226**	**1.0226**	**1.1000e-004**	**0.0000**	**1.0253**

3.3 2 - Material Delivery & Inventory - 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	4.1000e-004	3.7100e-003	3.6800e-003	0.0000		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.4230	0.4230	1.4000e-004	0.0000	0.4264
Total	**4.1000e-004**	**3.7100e-003**	**3.6800e-003**	**0.0000**		**2.6000e-004**	**2.6000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.4230**	**0.4230**	**1.4000e-004**	**0.0000**	**0.4264**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.3000e-004	0.0151	3.2100e-003	4.0000e-005	1.0000e-003	5.0000e-005	1.0400e-003	2.7000e-004	4.0000e-005	3.2000e-004	0.0000	4.3309	4.3309	3.0000e-004	0.0000	4.3383
Vendor	5.0000e-004	0.0203	4.8200e-003	3.0000e-005	2.9000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.5785	2.5785	3.2000e-004	0.0000	2.5865
Worker	3.5000e-004	2.6000e-004	2.9300e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8028	0.8028	2.0000e-005	0.0000	0.8033
Total	**1.2800e-003**	**0.0357**	**0.0110**	**8.0000e-005**	**2.2100e-003**	**7.0000e-005**	**2.2800e-003**	**6.0000e-004**	**6.0000e-005**	**6.7000e-004**	**0.0000**	**7.7121**	**7.7121**	**6.4000e-004**	**0.0000**	**7.7280**

3.3 2 - Material Delivery & Inventory - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1000e-004	3.7100e-003	3.6800e-003	0.0000		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.4230	0.4230	1.4000e-004	0.0000	0.4264
Total	**4.1000e-004**	**3.7100e-003**	**3.6800e-003**	**0.0000**		**2.6000e-004**	**2.6000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.4230**	**0.4230**	**1.4000e-004**	**0.0000**	**0.4264**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.3000e-004	0.0151	3.2100e-003	4.0000e-005	1.0000e-003	5.0000e-005	1.0400e-003	2.7000e-004	4.0000e-005	3.2000e-004	0.0000	4.3309	4.3309	3.0000e-004	0.0000	4.3383
Vendor	5.0000e-004	0.0203	4.8200e-003	3.0000e-005	2.9000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.5785	2.5785	3.2000e-004	0.0000	2.5865
Worker	3.5000e-004	2.6000e-004	2.9300e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8028	0.8028	2.0000e-005	0.0000	0.8033
Total	**1.2800e-003**	**0.0357**	**0.0110**	**8.0000e-005**	**2.2100e-003**	**7.0000e-005**	**2.2800e-003**	**6.0000e-004**	**6.0000e-005**	**6.7000e-004**	**0.0000**	**7.7121**	**7.7121**	**6.4000e-004**	**0.0000**	**7.7280**

3.4 3a - Grading & Site Prep (Western Parcel) - 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					7.8000e-004	0.0000	7.8000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.2870	0.1780	3.6000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	31.5340	31.5340	0.0102	0.0000	31.7890
Total	**0.0257**	**0.2870**	**0.1780**	**3.6000e-004**	**7.8000e-004**	**0.0125**	**0.0133**	**9.0000e-005**	**0.0115**	**0.0116**	**0.0000**	**31.5340**	**31.5340**	**0.0102**	**0.0000**	**31.7890**

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	3.8000e-004	0.0136	2.8700e-003	4.0000e-005	8.9000e-004	4.0000e-005	9.4000e-004	2.5000e-004	4.0000e-005	2.8000e-004	0.0000	3.8828	3.8828	2.7000e-004	0.0000	3.8895
Vendor	4.0000e-004	0.0161	3.8200e-003	2.0000e-005	2.3000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0464	2.0464	2.5000e-004	0.0000	2.0528
Worker	3.3000e-004	2.5000e-004	2.7900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7645	0.7645	2.0000e-005	0.0000	0.7650
Total	**1.1100e-003**	**0.0299**	**9.4800e-003**	**7.0000e-005**	**2.0000e-003**	**6.0000e-005**	**2.0700e-003**	**5.5000e-004**	**6.0000e-005**	**6.0000e-004**	**0.0000**	**6.6938**	**6.6938**	**5.4000e-004**	**0.0000**	**6.7073**

3.4 3a - Grading & Site Prep (Western Parcel) - 2021

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					7.8000e-004	0.0000	7.8000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.2870	0.1780	3.6000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	31.5340	31.5340	0.0102	0.0000	31.7890
Total	**0.0257**	**0.2870**	**0.1780**	**3.6000e-004**	**7.8000e-004**	**0.0125**	**0.0133**	**9.0000e-005**	**0.0115**	**0.0116**	**0.0000**	**31.5340**	**31.5340**	**0.0102**	**0.0000**	**31.7890**

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	3.8000e-004	0.0136	2.8700e-003	4.0000e-005	8.9000e-004	4.0000e-005	9.4000e-004	2.5000e-004	4.0000e-005	2.8000e-004	0.0000	3.8828	3.8828	2.7000e-004	0.0000	3.8895
Vendor	4.0000e-004	0.0161	3.8200e-003	2.0000e-005	2.3000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0464	2.0464	2.5000e-004	0.0000	2.0528
Worker	3.3000e-004	2.5000e-004	2.7900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7645	0.7645	2.0000e-005	0.0000	0.7650
Total	**1.1100e-003**	**0.0299**	**9.4800e-003**	**7.0000e-005**	**2.0000e-003**	**6.0000e-005**	**2.0700e-003**	**5.5000e-004**	**6.0000e-005**	**6.0000e-004**	**0.0000**	**6.6938**	**6.6938**	**5.4000e-004**	**0.0000**	**6.7073**

3.5 3b - Temporary Relocation of Existing Lines - 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	5.4600e-003	0.0652	0.0437	1.3000e-004		2.4100e-003	2.4100e-003		2.2200e-003	2.2200e-003	0.0000	11.2549	11.2549	3.6400e-003	0.0000	11.3459
Total	**5.4600e-003**	**0.0652**	**0.0437**	**1.3000e-004**		**2.4100e-003**	**2.4100e-003**		**2.2200e-003**	**2.2200e-003**	**0.0000**	**11.2549**	**11.2549**	**3.6400e-003**	**0.0000**	**11.3459**

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	1.1000e-004	3.9100e-003	8.3000e-004	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.1201	1.1201	8.0000e-005	0.0000	1.1220
Vendor	6.5000e-004	0.0266	6.3100e-003	3.0000e-005	3.9000e-004	2.0000e-005	4.1000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	3.3766	3.3766	4.2000e-004	0.0000	3.3870
Worker	2.3000e-004	1.7000e-004	1.9200e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5256	0.5256	1.0000e-005	0.0000	0.5260
Total	**9.9000e-004**	**0.0306**	**9.0600e-003**	**5.0000e-005**	**1.2500e-003**	**3.0000e-005**	**1.2900e-003**	**3.4000e-004**	**3.0000e-005**	**3.7000e-004**	**0.0000**	**5.0223**	**5.0223**	**5.1000e-004**	**0.0000**	**5.0350**

3.5 3b - Temporary Relocation of Existing Lines - 2021

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	5.4600e-003	0.0652	0.0437	1.3000e-004		2.4100e-003	2.4100e-003		2.2200e-003	2.2200e-003	0.0000	11.2549	11.2549	3.6400e-003	0.0000	11.3459
Total	**5.4600e-003**	**0.0652**	**0.0437**	**1.3000e-004**		**2.4100e-003**	**2.4100e-003**		**2.2200e-003**	**2.2200e-003**	**0.0000**	**11.2549**	**11.2549**	**3.6400e-003**	**0.0000**	**11.3459**

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	1.1000e-004	3.9100e-003	8.3000e-004	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.1201	1.1201	8.0000e-005	0.0000	1.1220
Vendor	6.5000e-004	0.0266	6.3100e-003	3.0000e-005	3.9000e-004	2.0000e-005	4.1000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	3.3766	3.3766	4.2000e-004	0.0000	3.3870
Worker	2.3000e-004	1.7000e-004	1.9200e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5256	0.5256	1.0000e-005	0.0000	0.5260
Total	**9.9000e-004**	**0.0306**	**9.0600e-003**	**5.0000e-005**	**1.2500e-003**	**3.0000e-005**	**1.2900e-003**	**3.4000e-004**	**3.0000e-005**	**3.7000e-004**	**0.0000**	**5.0223**	**5.0223**	**5.1000e-004**	**0.0000**	**5.0350**

3.6 4a - Civil Survey & Marking - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.0000e-005	1.9300e-003	4.6000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2456	0.2456	3.0000e-005	0.0000	0.2463
Worker	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0573	0.0573	0.0000	0.0000	0.0574
Total	**8.0000e-005**	**1.9500e-003**	**6.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3029**	**0.3029**	**3.0000e-005**	**0.0000**	**0.3037**

3.6 4a - Civil Survey & Marking - 2021

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.0000e-005	1.9300e-003	4.6000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2456	0.2456	3.0000e-005	0.0000	0.2463
Worker	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0573	0.0573	0.0000	0.0000	0.0574
Total	**8.0000e-005**	**1.9500e-003**	**6.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3029**	**0.3029**	**3.0000e-005**	**0.0000**	**0.3037**

3.7 4b - Below-Grade Civil Construction (Western Parcel) - 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					2.2000e-004	0.0000	2.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2839	0.3066	6.1000e-004		0.0135	0.0135		0.0124	0.0124	0.0000	53.6007	53.6007	0.0173	0.0000	54.0341
Total	**0.0259**	**0.2839**	**0.3066**	**6.1000e-004**	**2.2000e-004**	**0.0135**	**0.0137**	**3.0000e-005**	**0.0124**	**0.0124**	**0.0000**	**53.6007**	**53.6007**	**0.0173**	**0.0000**	**54.0341**

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	1.7900e-003	0.0636	0.0135	1.9000e-004	4.2000e-003	1.9000e-004	4.3900e-003	1.1500e-003	1.8000e-004	1.3400e-003	0.0000	18.2195	18.2195	1.2500e-003	0.0000	18.2507
Vendor	3.3200e-003	0.1346	0.0320	1.8000e-004	1.9600e-003	1.0000e-004	2.0500e-003	5.7000e-004	9.0000e-005	6.6000e-004	0.0000	17.1081	17.1081	2.1200e-003	0.0000	17.1610
Worker	1.8300e-003	1.3600e-003	0.0153	5.0000e-005	4.8300e-003	4.0000e-005	4.8600e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.2049	4.2049	1.1000e-004	0.0000	4.2077
Total	**6.9400e-003**	**0.1995**	**0.0608**	**4.2000e-004**	**0.0110**	**3.3000e-004**	**0.0113**	**3.0000e-003**	**3.0000e-004**	**3.3200e-003**	**0.0000**	**39.5325**	**39.5325**	**3.4800e-003**	**0.0000**	**39.6194**

3.7 4b - Below-Grade Civil Construction (Western Parcel) - 2021

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					2.2000e-004	0.0000	2.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2839	0.3066	6.1000e-004		0.0135	0.0135		0.0124	0.0124	0.0000	53.6006	53.6006	0.0173	0.0000	54.0340
Total	**0.0259**	**0.2839**	**0.3066**	**6.1000e-004**	**2.2000e-004**	**0.0135**	**0.0137**	**3.0000e-005**	**0.0124**	**0.0124**	**0.0000**	**53.6006**	**53.6006**	**0.0173**	**0.0000**	**54.0340**

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	1.7900e-003	0.0636	0.0135	1.9000e-004	4.2000e-003	1.9000e-004	4.3900e-003	1.1500e-003	1.8000e-004	1.3400e-003	0.0000	18.2195	18.2195	1.2500e-003	0.0000	18.2507
Vendor	3.3200e-003	0.1346	0.0320	1.8000e-004	1.9600e-003	1.0000e-004	2.0500e-003	5.7000e-004	9.0000e-005	6.6000e-004	0.0000	17.1081	17.1081	2.1200e-003	0.0000	17.1610
Worker	1.8300e-003	1.3600e-003	0.0153	5.0000e-005	4.8300e-003	4.0000e-005	4.8600e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.2049	4.2049	1.1000e-004	0.0000	4.2077
Total	**6.9400e-003**	**0.1995**	**0.0608**	**4.2000e-004**	**0.0110**	**3.3000e-004**	**0.0113**	**3.0000e-003**	**3.0000e-004**	**3.3200e-003**	**0.0000**	**39.5325**	**39.5325**	**3.4800e-003**	**0.0000**	**39.6194**

3.8 4c - Below-Grade Electrical Construction (Western Parcel) - 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	0.0119	0.1279	0.1080	2.0000e-004		5.9400e-003	5.9400e-003		5.4600e-003	5.4600e-003	0.0000	17.7333	17.7333	5.7400e-003	0.0000	17.8766
Total	**0.0119**	**0.1279**	**0.1080**	**2.0000e-004**		**5.9400e-003**	**5.9400e-003**		**5.4600e-003**	**5.4600e-003**	**0.0000**	**17.7333**	**17.7333**	**5.7400e-003**	**0.0000**	**17.8766**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	0.0156	3.3200e-003	5.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	2.8000e-004	5.0000e-005	3.3000e-004	0.0000	4.4802	4.4802	3.1000e-004	0.0000	4.4879
Vendor	1.7300e-003	0.0704	0.0167	9.0000e-005	1.0200e-003	5.0000e-005	1.0700e-003	3.0000e-004	5.0000e-005	3.5000e-004	0.0000	8.9429	8.9429	1.1100e-003	0.0000	8.9705
Worker	7.7000e-004	5.7000e-004	6.4100e-003	2.0000e-005	2.0200e-003	2.0000e-005	2.0300e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.7584	1.7584	5.0000e-005	0.0000	1.7596
Total	**2.9400e-003**	**0.0866**	**0.0264**	**1.6000e-004**	**4.0700e-003**	**1.2000e-004**	**4.1800e-003**	**1.1200e-003**	**1.1000e-004**	**1.2300e-003**	**0.0000**	**15.1815**	**15.1815**	**1.4700e-003**	**0.0000**	**15.2180**

3.8 4c - Below-Grade Electrical Construction (Western Parcel) - 2021

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	0.0119	0.1279	0.1080	2.0000e-004		5.9400e-003	5.9400e-003		5.4600e-003	5.4600e-003	0.0000	17.7332	17.7332	5.7400e-003	0.0000	17.8766
Total	**0.0119**	**0.1279**	**0.1080**	**2.0000e-004**		**5.9400e-003**	**5.9400e-003**		**5.4600e-003**	**5.4600e-003**	**0.0000**	**17.7332**	**17.7332**	**5.7400e-003**	**0.0000**	**17.8766**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	0.0156	3.3200e-003	5.0000e-005	1.0300e-003	5.0000e-005	1.0800e-003	2.8000e-004	5.0000e-005	3.3000e-004	0.0000	4.4802	4.4802	3.1000e-004	0.0000	4.4879
Vendor	1.7300e-003	0.0704	0.0167	9.0000e-005	1.0200e-003	5.0000e-005	1.0700e-003	3.0000e-004	5.0000e-005	3.5000e-004	0.0000	8.9429	8.9429	1.1100e-003	0.0000	8.9705
Worker	7.7000e-004	5.7000e-004	6.4100e-003	2.0000e-005	2.0200e-003	2.0000e-005	2.0300e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.7584	1.7584	5.0000e-005	0.0000	1.7596
Total	**2.9400e-003**	**0.0866**	**0.0264**	**1.6000e-004**	**4.0700e-003**	**1.2000e-004**	**4.1800e-003**	**1.1200e-003**	**1.1000e-004**	**1.2300e-003**	**0.0000**	**15.1815**	**15.1815**	**1.4700e-003**	**0.0000**	**15.2180**

3.9 5 - Underground Distribution Getaways - 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					3.9000e-004	0.0000	3.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.2322	0.1748	3.2000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	28.2946	28.2946	9.1500e-003	0.0000	28.5234
Total	**0.0212**	**0.2322**	**0.1748**	**3.2000e-004**	**3.9000e-004**	**0.0113**	**0.0117**	**6.0000e-005**	**0.0104**	**0.0105**	**0.0000**	**28.2946**	**28.2946**	**9.1500e-003**	**0.0000**	**28.5234**

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	3.1600e-003	0.1121	0.0238	3.3000e-004	9.5900e-003	3.4000e-004	9.9300e-003	2.5700e-003	3.2000e-004	2.8900e-003	0.0000	32.1081	32.1081	2.2000e-003	0.0000	32.1630
Vendor	4.2700e-003	0.1731	0.0411	2.3000e-004	2.5200e-003	1.3000e-004	2.6400e-003	7.3000e-004	1.2000e-004	8.5000e-004	0.0000	21.9991	21.9991	2.7200e-003	0.0000	22.0671
Worker	1.7900e-003	1.3200e-003	0.0150	5.0000e-005	4.7200e-003	4.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2900e-003	0.0000	4.1093	4.1093	1.1000e-004	0.0000	4.1121
Total	**9.2200e-003**	**0.2864**	**0.0798**	**6.1000e-004**	**0.0168**	**5.1000e-004**	**0.0173**	**4.5500e-003**	**4.7000e-004**	**5.0300e-003**	**0.0000**	**58.2165**	**58.2165**	**5.0300e-003**	**0.0000**	**58.3422**

3.9 5 - Underground Distribution Getaways - 2021

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					3.9000e-004	0.0000	3.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.2322	0.1748	3.2000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	28.2946	28.2946	9.1500e-003	0.0000	28.5234
Total	**0.0212**	**0.2322**	**0.1748**	**3.2000e-004**	**3.9000e-004**	**0.0113**	**0.0117**	**6.0000e-005**	**0.0104**	**0.0105**	**0.0000**	**28.2946**	**28.2946**	**9.1500e-003**	**0.0000**	**28.5234**

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	3.1600e-003	0.1121	0.0238	3.3000e-004	9.5900e-003	3.4000e-004	9.9300e-003	2.5700e-003	3.2000e-004	2.8900e-003	0.0000	32.1081	32.1081	2.2000e-003	0.0000	32.1630
Vendor	4.2700e-003	0.1731	0.0411	2.3000e-004	2.5200e-003	1.3000e-004	2.6400e-003	7.3000e-004	1.2000e-004	8.5000e-004	0.0000	21.9991	21.9991	2.7200e-003	0.0000	22.0671
Worker	1.7900e-003	1.3200e-003	0.0150	5.0000e-005	4.7200e-003	4.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2900e-003	0.0000	4.1093	4.1093	1.1000e-004	0.0000	4.1121
Total	**9.2200e-003**	**0.2864**	**0.0798**	**6.1000e-004**	**0.0168**	**5.1000e-004**	**0.0173**	**4.5500e-003**	**4.7000e-004**	**5.0300e-003**	**0.0000**	**58.2165**	**58.2165**	**5.0300e-003**	**0.0000**	**58.3422**

3.10 6a - Above-grade Structural Construction (Western Parcel) - 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	0.0133	0.1564	0.0640	1.9000e-004		6.3500e-003	6.3500e-003		5.8400e-003	5.8400e-003	0.0000	16.3469	16.3469	5.2900e-003	0.0000	16.4790
Total	**0.0133**	**0.1564**	**0.0640**	**1.9000e-004**		**6.3500e-003**	**6.3500e-003**		**5.8400e-003**	**5.8400e-003**	**0.0000**	**16.3469**	**16.3469**	**5.2900e-003**	**0.0000**	**16.4790**

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	3.2000e-004	0.0112	2.3800e-003	3.0000e-005	9.6000e-004	3.0000e-005	9.9000e-004	2.6000e-004	3.0000e-005	2.9000e-004	0.0000	3.2108	3.2108	2.2000e-004	0.0000	3.2163
Vendor	7.1700e-003	0.2907	0.0690	3.8000e-004	4.2300e-003	2.1000e-004	4.4400e-003	1.2300e-003	2.0000e-004	1.4300e-003	0.0000	36.9584	36.9584	4.5700e-003	0.0000	37.0727
Worker	1.7900e-003	1.3200e-003	0.0150	5.0000e-005	4.7200e-003	4.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2900e-003	0.0000	4.1093	4.1093	1.1000e-004	0.0000	4.1121
Total	**9.2800e-003**	**0.3033**	**0.0864**	**4.6000e-004**	**9.9100e-003**	**2.8000e-004**	**0.0102**	**2.7400e-003**	**2.6000e-004**	**3.0100e-003**	**0.0000**	**44.2786**	**44.2786**	**4.9000e-003**	**0.0000**	**44.4011**

3.10 6a - Above-grade Structural Construction (Western Parcel) - 2021

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	0.0133	0.1564	0.0640	1.9000e-004		6.3500e-003	6.3500e-003		5.8400e-003	5.8400e-003	0.0000	16.3468	16.3468	5.2900e-003	0.0000	16.4790
Total	**0.0133**	**0.1564**	**0.0640**	**1.9000e-004**		**6.3500e-003**	**6.3500e-003**		**5.8400e-003**	**5.8400e-003**	**0.0000**	**16.3468**	**16.3468**	**5.2900e-003**	**0.0000**	**16.4790**

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	3.2000e-004	0.0112	2.3800e-003	3.0000e-005	9.6000e-004	3.0000e-005	9.9000e-004	2.6000e-004	3.0000e-005	2.9000e-004	0.0000	3.2108	3.2108	2.2000e-004	0.0000	3.2163
Vendor	7.1700e-003	0.2907	0.0690	3.8000e-004	4.2300e-003	2.1000e-004	4.4400e-003	1.2300e-003	2.0000e-004	1.4300e-003	0.0000	36.9584	36.9584	4.5700e-003	0.0000	37.0727
Worker	1.7900e-003	1.3200e-003	0.0150	5.0000e-005	4.7200e-003	4.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2900e-003	0.0000	4.1093	4.1093	1.1000e-004	0.0000	4.1121
Total	**9.2800e-003**	**0.3033**	**0.0864**	**4.6000e-004**	**9.9100e-003**	**2.8000e-004**	**0.0102**	**2.7400e-003**	**2.6000e-004**	**3.0100e-003**	**0.0000**	**44.2786**	**44.2786**	**4.9000e-003**	**0.0000**	**44.4011**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 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	1.4000e-004	4.9500e-003	1.0500e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.9000e-004	2.2000e-004	1.0000e-005	2.4000e-004	0.0000	1.4187	1.4187	1.0000e-004	0.0000	1.4212
Vendor	2.1300e-003	0.0863	0.0205	1.1000e-004	1.2500e-003	6.0000e-005	1.3200e-003	3.6000e-004	6.0000e-005	4.2000e-004	0.0000	10.9647	10.9647	1.3600e-003	0.0000	10.9986
Worker	1.1900e-003	8.8000e-004	9.9300e-003	3.0000e-005	3.1300e-003	2.0000e-005	3.1500e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.7236	2.7236	7.0000e-005	0.0000	2.7255
Total	**3.4600e-003**	**0.0921**	**0.0315**	**1.5000e-004**	**5.2500e-003**	**9.0000e-005**	**5.3600e-003**	**1.4100e-003**	**9.0000e-005**	**1.5100e-003**	**0.0000**	**15.1071**	**15.1071**	**1.5300e-003**	**0.0000**	**15.1453**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 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	1.4000e-004	4.9500e-003	1.0500e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.9000e-004	2.2000e-004	1.0000e-005	2.4000e-004	0.0000	1.4187	1.4187	1.0000e-004	0.0000	1.4212
Vendor	2.1300e-003	0.0863	0.0205	1.1000e-004	1.2500e-003	6.0000e-005	1.3200e-003	3.6000e-004	6.0000e-005	4.2000e-004	0.0000	10.9647	10.9647	1.3600e-003	0.0000	10.9986
Worker	1.1900e-003	8.8000e-004	9.9300e-003	3.0000e-005	3.1300e-003	2.0000e-005	3.1500e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.7236	2.7236	7.0000e-005	0.0000	2.7255
Total	**3.4600e-003**	**0.0921**	**0.0315**	**1.5000e-004**	**5.2500e-003**	**9.0000e-005**	**5.3600e-003**	**1.4100e-003**	**9.0000e-005**	**1.5100e-003**	**0.0000**	**15.1071**	**15.1071**	**1.5300e-003**	**0.0000**	**15.1453**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	6.0100e-003	1.3600e-003	2.0000e-005	9.0000e-004	2.0000e-005	9.1000e-004	2.3000e-004	2.0000e-005	2.5000e-004	0.0000	1.8446	1.8446	1.3000e-004	0.0000	1.8477
Vendor	2.6000e-003	0.1101	0.0252	1.5000e-004	1.6500e-003	7.0000e-005	1.7200e-003	4.8000e-004	7.0000e-005	5.5000e-004	0.0000	14.3034	14.3034	1.6900e-003	0.0000	14.3456
Worker	1.4700e-003	1.0400e-003	0.0121	4.0000e-005	4.1100e-003	3.0000e-005	4.1400e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.4552	3.4552	9.0000e-005	0.0000	3.4574
Total	**4.2400e-003**	**0.1172**	**0.0386**	**2.1000e-004**	**6.6600e-003**	**1.2000e-004**	**6.7700e-003**	**1.8000e-003**	**1.2000e-004**	**1.9200e-003**	**0.0000**	**19.6033**	**19.6033**	**1.9100e-003**	**0.0000**	**19.6508**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	6.0100e-003	1.3600e-003	2.0000e-005	9.0000e-004	2.0000e-005	9.1000e-004	2.3000e-004	2.0000e-005	2.5000e-004	0.0000	1.8446	1.8446	1.3000e-004	0.0000	1.8477
Vendor	2.6000e-003	0.1101	0.0252	1.5000e-004	1.6500e-003	7.0000e-005	1.7200e-003	4.8000e-004	7.0000e-005	5.5000e-004	0.0000	14.3034	14.3034	1.6900e-003	0.0000	14.3456
Worker	1.4700e-003	1.0400e-003	0.0121	4.0000e-005	4.1100e-003	3.0000e-005	4.1400e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.4552	3.4552	9.0000e-005	0.0000	3.4574
Total	**4.2400e-003**	**0.1172**	**0.0386**	**2.1000e-004**	**6.6600e-003**	**1.2000e-004**	**6.7700e-003**	**1.8000e-003**	**1.2000e-004**	**1.9200e-003**	**0.0000**	**19.6033**	**19.6033**	**1.9100e-003**	**0.0000**	**19.6508**

3.12 7 - Sub-Transmission Getaways - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7300e-003	0.0403	0.0246	1.0000e-004		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	8.3483	8.3483	2.7000e-003	0.0000	8.4158
Total	**3.7300e-003**	**0.0403**	**0.0246**	**1.0000e-004**		**1.5400e-003**	**1.5400e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**8.3483**	**8.3483**	**2.7000e-003**	**0.0000**	**8.4158**

3.12 7 - Sub-Transmission Getaways - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.4100e-003	5.5000e-004	1.0000e-005	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.7378	0.7378	5.0000e-005	0.0000	0.7391
Vendor	1.2600e-003	0.0534	0.0122	7.0000e-005	8.0000e-004	3.0000e-005	8.3000e-004	2.3000e-004	3.0000e-005	2.7000e-004	0.0000	6.9387	6.9387	8.2000e-004	0.0000	6.9592
Worker	2.0000e-004	1.4000e-004	1.6100e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4607	0.4607	1.0000e-005	0.0000	0.4610
Total	**1.5300e-003**	**0.0560**	**0.0144**	**9.0000e-005**	**1.5600e-003**	**4.0000e-005**	**1.6000e-003**	**4.4000e-004**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**8.1372**	**8.1372**	**8.8000e-004**	**0.0000**	**8.1593**

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	3.7300e-003	0.0403	0.0246	1.0000e-004		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	8.3483	8.3483	2.7000e-003	0.0000	8.4158
Total	**3.7300e-003**	**0.0403**	**0.0246**	**1.0000e-004**		**1.5400e-003**	**1.5400e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**8.3483**	**8.3483**	**2.7000e-003**	**0.0000**	**8.4158**

3.12 7 - Sub-Transmission Getaways - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.4100e-003	5.5000e-004	1.0000e-005	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.7378	0.7378	5.0000e-005	0.0000	0.7391
Vendor	1.2600e-003	0.0534	0.0122	7.0000e-005	8.0000e-004	3.0000e-005	8.3000e-004	2.3000e-004	3.0000e-005	2.7000e-004	0.0000	6.9387	6.9387	8.2000e-004	0.0000	6.9592
Worker	2.0000e-004	1.4000e-004	1.6100e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4607	0.4607	1.0000e-005	0.0000	0.4610
Total	**1.5300e-003**	**0.0560**	**0.0144**	**9.0000e-005**	**1.5600e-003**	**4.0000e-005**	**1.6000e-003**	**4.4000e-004**	**4.0000e-005**	**4.8000e-004**	**0.0000**	**8.1372**	**8.1372**	**8.8000e-004**	**0.0000**	**8.1593**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0160	3.6600e-003	2.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0816	2.0816	2.5000e-004	0.0000	2.0878
Worker	7.0000e-005	5.0000e-005	5.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1659	0.1659	0.0000	0.0000	0.1660
Total	**4.5000e-004**	**0.0161**	**4.2400e-003**	**2.0000e-005**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**2.2475**	**2.2475**	**2.5000e-004**	**0.0000**	**2.2537**

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0160	3.6600e-003	2.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0816	2.0816	2.5000e-004	0.0000	2.0878
Worker	7.0000e-005	5.0000e-005	5.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1659	0.1659	0.0000	0.0000	0.1660
Total	**4.5000e-004**	**0.0161**	**4.2400e-003**	**2.0000e-005**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**2.2475**	**2.2475**	**2.5000e-004**	**0.0000**	**2.2537**

3.14 9 - Demolition of the Old Substation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0295	0.0000	0.0295	4.4600e-003	0.0000	4.4600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.1964	0.2599	4.5000e-004		8.7100e-003	8.7100e-003		8.0200e-003	8.0200e-003	0.0000	39.8765	39.8765	0.0129	0.0000	40.1989
Total	**0.0198**	**0.1964**	**0.2599**	**4.5000e-004**	**0.0295**	**8.7100e-003**	**0.0382**	**4.4600e-003**	**8.0200e-003**	**0.0125**	**0.0000**	**39.8765**	**39.8765**	**0.0129**	**0.0000**	**40.1989**

3.14 9 - Demolition of the Old Substation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-003	0.0828	0.0188	2.6000e-004	7.6700e-003	2.3000e-004	7.9100e-003	2.0600e-003	2.2000e-004	2.2800e-003	0.0000	25.3818	25.3818	1.7300e-003	0.0000	25.4249
Vendor	5.1100e-003	0.2163	0.0494	2.9000e-004	3.2400e-003	1.4000e-004	3.3800e-003	9.4000e-004	1.3000e-004	1.0800e-003	0.0000	28.0915	28.0915	3.3200e-003	0.0000	28.1744
Worker	1.6800e-003	1.2000e-003	0.0138	4.0000e-005	4.7200e-003	3.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.9620	3.9620	1.0000e-004	0.0000	3.9645
Total	**9.1900e-003**	**0.3003**	**0.0821**	**5.9000e-004**	**0.0156**	**4.0000e-004**	**0.0160**	**4.2500e-003**	**3.8000e-004**	**4.6400e-003**	**0.0000**	**57.4353**	**57.4353**	**5.1500e-003**	**0.0000**	**57.5639**

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					0.0295	0.0000	0.0295	4.4600e-003	0.0000	4.4600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.1964	0.2599	4.5000e-004		8.7100e-003	8.7100e-003		8.0200e-003	8.0200e-003	0.0000	39.8765	39.8765	0.0129	0.0000	40.1989
Total	**0.0198**	**0.1964**	**0.2599**	**4.5000e-004**	**0.0295**	**8.7100e-003**	**0.0382**	**4.4600e-003**	**8.0200e-003**	**0.0125**	**0.0000**	**39.8765**	**39.8765**	**0.0129**	**0.0000**	**40.1989**

3.14 9 - Demolition of the Old Substation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-003	0.0828	0.0188	2.6000e-004	7.6700e-003	2.3000e-004	7.9100e-003	2.0600e-003	2.2000e-004	2.2800e-003	0.0000	25.3818	25.3818	1.7300e-003	0.0000	25.4249
Vendor	5.1100e-003	0.2163	0.0494	2.9000e-004	3.2400e-003	1.4000e-004	3.3800e-003	9.4000e-004	1.3000e-004	1.0800e-003	0.0000	28.0915	28.0915	3.3200e-003	0.0000	28.1744
Worker	1.6800e-003	1.2000e-003	0.0138	4.0000e-005	4.7200e-003	3.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.9620	3.9620	1.0000e-004	0.0000	3.9645
Total	**9.1900e-003**	**0.3003**	**0.0821**	**5.9000e-004**	**0.0156**	**4.0000e-004**	**0.0160**	**4.2500e-003**	**3.8000e-004**	**4.6400e-003**	**0.0000**	**57.4353**	**57.4353**	**5.1500e-003**	**0.0000**	**57.5639**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9000e-004	0.0000	4.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4200e-003	0.0702	0.0450	1.0000e-004		3.0300e-003	3.0300e-003		2.7900e-003	2.7900e-003	0.0000	8.6074	8.6074	2.7800e-003	0.0000	8.6769
Total	**6.4200e-003**	**0.0702**	**0.0450**	**1.0000e-004**	**4.9000e-004**	**3.0300e-003**	**3.5200e-003**	**5.0000e-005**	**2.7900e-003**	**2.8400e-003**	**0.0000**	**8.6074**	**8.6074**	**2.7800e-003**	**0.0000**	**8.6769**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	3.8500e-003	8.7000e-004	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.1806	1.1806	8.0000e-005	0.0000	1.1826
Vendor	1.9000e-004	8.1200e-003	1.8600e-003	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	1.0550	1.0550	1.2000e-004	0.0000	1.0581
Worker	1.3000e-004	9.0000e-005	1.0300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2949	0.2949	1.0000e-005	0.0000	0.2950
Total	**4.3000e-004**	**0.0121**	**3.7600e-003**	**2.0000e-005**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**2.2000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**2.5304**	**2.5304**	**2.1000e-004**	**0.0000**	**2.5357**

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					4.9000e-004	0.0000	4.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4200e-003	0.0702	0.0450	1.0000e-004		3.0300e-003	3.0300e-003		2.7900e-003	2.7900e-003	0.0000	8.6073	8.6073	2.7800e-003	0.0000	8.6769
Total	**6.4200e-003**	**0.0702**	**0.0450**	**1.0000e-004**	**4.9000e-004**	**3.0300e-003**	**3.5200e-003**	**5.0000e-005**	**2.7900e-003**	**2.8400e-003**	**0.0000**	**8.6073**	**8.6073**	**2.7800e-003**	**0.0000**	**8.6769**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	3.8500e-003	8.7000e-004	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.1806	1.1806	8.0000e-005	0.0000	1.1826
Vendor	1.9000e-004	8.1200e-003	1.8600e-003	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	1.0550	1.0550	1.2000e-004	0.0000	1.0581
Worker	1.3000e-004	9.0000e-005	1.0300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2949	0.2949	1.0000e-005	0.0000	0.2950
Total	**4.3000e-004**	**0.0121**	**3.7600e-003**	**2.0000e-005**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**2.2000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**2.5304**	**2.5304**	**2.1000e-004**	**0.0000**	**2.5357**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6000e-004	0.0000	1.6000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.2051	0.2462	5.3000e-004		9.6500e-003	9.6500e-003		8.8800e-003	8.8800e-003	0.0000	46.3671	46.3671	0.0150	0.0000	46.7420
Total	**0.0202**	**0.2051**	**0.2462**	**5.3000e-004**	**1.6000e-004**	**9.6500e-003**	**9.8100e-003**	**2.0000e-005**	**8.8800e-003**	**8.9000e-003**	**0.0000**	**46.3671**	**46.3671**	**0.0150**	**0.0000**	**46.7420**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2600e-003	0.0433	9.8200e-003	1.4000e-004	3.8700e-003	1.2000e-004	3.9900e-003	1.0400e-003	1.2000e-004	1.1600e-003	0.0000	13.2812	13.2812	9.0000e-004	0.0000	13.3038
Vendor	3.1600e-003	0.1336	0.0305	1.8000e-004	2.0000e-003	9.0000e-005	2.0900e-003	5.8000e-004	8.0000e-005	6.6000e-004	0.0000	17.3467	17.3467	2.0500e-003	0.0000	17.3979
Worker	1.7600e-003	1.2500e-003	0.0145	5.0000e-005	4.9400e-003	4.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1463	4.1463	1.0000e-004	0.0000	4.1489
Total	**6.1800e-003**	**0.1781**	**0.0548**	**3.7000e-004**	**0.0108**	**2.5000e-004**	**0.0111**	**2.9300e-003**	**2.3000e-004**	**3.1600e-003**	**0.0000**	**34.7742**	**34.7742**	**3.0500e-003**	**0.0000**	**34.8506**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6000e-004	0.0000	1.6000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.2051	0.2462	5.3000e-004		9.6500e-003	9.6500e-003		8.8800e-003	8.8800e-003	0.0000	46.3670	46.3670	0.0150	0.0000	46.7419
Total	**0.0202**	**0.2051**	**0.2462**	**5.3000e-004**	**1.6000e-004**	**9.6500e-003**	**9.8100e-003**	**2.0000e-005**	**8.8800e-003**	**8.9000e-003**	**0.0000**	**46.3670**	**46.3670**	**0.0150**	**0.0000**	**46.7419**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2600e-003	0.0433	9.8200e-003	1.4000e-004	3.8700e-003	1.2000e-004	3.9900e-003	1.0400e-003	1.2000e-004	1.1600e-003	0.0000	13.2812	13.2812	9.0000e-004	0.0000	13.3038
Vendor	3.1600e-003	0.1336	0.0305	1.8000e-004	2.0000e-003	9.0000e-005	2.0900e-003	5.8000e-004	8.0000e-005	6.6000e-004	0.0000	17.3467	17.3467	2.0500e-003	0.0000	17.3979
Worker	1.7600e-003	1.2500e-003	0.0145	5.0000e-005	4.9400e-003	4.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1463	4.1463	1.0000e-004	0.0000	4.1489
Total	**6.1800e-003**	**0.1781**	**0.0548**	**3.7000e-004**	**0.0108**	**2.5000e-004**	**0.0111**	**2.9300e-003**	**2.3000e-004**	**3.1600e-003**	**0.0000**	**34.7742**	**34.7742**	**3.0500e-003**	**0.0000**	**34.8506**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0123	0.1381	0.0625	1.9000e-004		5.7300e-003	5.7300e-003		5.2700e-003	5.2700e-003	0.0000	16.7298	16.7298	5.4100e-003	0.0000	16.8650
Total	**0.0123**	**0.1381**	**0.0625**	**1.9000e-004**		**5.7300e-003**	**5.7300e-003**		**5.2700e-003**	**5.2700e-003**	**0.0000**	**16.7298**	**16.7298**	**5.4100e-003**	**0.0000**	**16.8650**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1000e-004	0.0106	2.4000e-003	3.0000e-005	9.8000e-004	3.0000e-005	1.0100e-003	2.6000e-004	3.0000e-005	2.9000e-004	0.0000	3.2465	3.2465	2.2000e-004	0.0000	3.2520
Vendor	6.2300e-003	0.2640	0.0603	3.5000e-004	3.9500e-003	1.7000e-004	4.1200e-003	1.1500e-003	1.6000e-004	1.3100e-003	0.0000	34.2795	34.2795	4.0500e-003	0.0000	34.3807
Worker	1.3800e-003	9.8000e-004	0.0113	4.0000e-005	3.8600e-003	3.0000e-005	3.8900e-003	1.0300e-003	3.0000e-005	1.0500e-003	0.0000	3.2433	3.2433	8.0000e-005	0.0000	3.2454
Total	**7.9200e-003**	**0.2755**	**0.0741**	**4.2000e-004**	**8.7900e-003**	**2.3000e-004**	**9.0200e-003**	**2.4400e-003**	**2.2000e-004**	**2.6500e-003**	**0.0000**	**40.7694**	**40.7694**	**4.3500e-003**	**0.0000**	**40.8781**

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	0.0123	0.1381	0.0625	1.9000e-004		5.7300e-003	5.7300e-003		5.2700e-003	5.2700e-003	0.0000	16.7297	16.7297	5.4100e-003	0.0000	16.8650
Total	**0.0123**	**0.1381**	**0.0625**	**1.9000e-004**		**5.7300e-003**	**5.7300e-003**		**5.2700e-003**	**5.2700e-003**	**0.0000**	**16.7297**	**16.7297**	**5.4100e-003**	**0.0000**	**16.8650**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1000e-004	0.0106	2.4000e-003	3.0000e-005	9.8000e-004	3.0000e-005	1.0100e-003	2.6000e-004	3.0000e-005	2.9000e-004	0.0000	3.2465	3.2465	2.2000e-004	0.0000	3.2520
Vendor	6.2300e-003	0.2640	0.0603	3.5000e-004	3.9500e-003	1.7000e-004	4.1200e-003	1.1500e-003	1.6000e-004	1.3100e-003	0.0000	34.2795	34.2795	4.0500e-003	0.0000	34.3807
Worker	1.3800e-003	9.8000e-004	0.0113	4.0000e-005	3.8600e-003	3.0000e-005	3.8900e-003	1.0300e-003	3.0000e-005	1.0500e-003	0.0000	3.2433	3.2433	8.0000e-005	0.0000	3.2454
Total	**7.9200e-003**	**0.2755**	**0.0741**	**4.2000e-004**	**8.7900e-003**	**2.3000e-004**	**9.0200e-003**	**2.4400e-003**	**2.2000e-004**	**2.6500e-003**	**0.0000**	**40.7694**	**40.7694**	**4.3500e-003**	**0.0000**	**40.8781**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	6.0000e-005	1.0000e-005	6.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3200e-003
Unmitigated	6.0000e-005	1.0000e-005	6.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3200e-003
Total	**6.0000e-005**	**1.0000e-005**	**6.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**0.0000**	**1.3200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2400e-003	1.2400e-003	0.0000	0.0000	1.3200e-003
Total	**6.0000e-005**	**1.0000e-005**	**6.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2400e-003**	**1.2400e-003**	**0.0000**	**0.0000**	**1.3200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Hunter Substation Replacement Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	50.00	User Defined Unit	2.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2023
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 - Project-specific inputs.

Construction Phase - Project-specific schedule.

Consumer Products -

Area Coating -

Area Mitigation -

Fleet Mix -

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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	5.5148	67.0235	38.8114	0.0941	0.8144	2.5505	3.3287	0.2179	2.3470	2.5337	0.0000	9,331.5485	9,331.5485	2.4430	0.0000	9,392.6229
2022	3.4195	41.0879	24.3419	0.0624	2.1093	1.5259	2.5330	0.4082	1.4041	1.5410	0.0000	6,173.5698	6,173.5698	1.6474	0.0000	6,214.7536
Maximum	**5.5148**	**67.0235**	**38.8114**	**0.0941**	**2.1093**	**2.5505**	**3.3287**	**0.4082**	**2.3470**	**2.5337**	**0.0000**	**9,331.5485**	**9,331.5485**	**2.4430**	**0.0000**	**9,392.6229**

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	5.5148	67.0235	38.8114	0.0941	0.8144	2.5505	3.3287	0.2179	2.3470	2.5337	0.0000	9,331.5485	9,331.5485	2.4430	0.0000	9,392.6229
2022	3.4195	41.0879	24.3419	0.0624	2.1093	1.5259	2.5330	0.4082	1.4041	1.5410	0.0000	6,173.5698	6,173.5698	1.6474	0.0000	6,214.7535
Maximum	**5.5148**	**67.0235**	**38.8114**	**0.0941**	**2.1093**	**2.5505**	**3.3287**	**0.4082**	**2.3470**	**2.5337**	**0.0000**	**9,331.5485**	**9,331.5485**	**2.4430**	**0.0000**	**9,392.6229**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

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	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1 - Mobilization & Setup	Site Preparation	4/1/2021	4/2/2021	5	2	
2	2 - Material Delivery & Inventory	Site Preparation	4/4/2021	5/3/2021	5	21	
3	3a - Grading & Site Prep (Western Parcel)	Grading	4/4/2021	4/17/2021	5	10	
4	3b - Temporary Relocation of Existing Lines	Site Preparation	4/18/2021	5/3/2021	5	11	
5	4a - Civil Survey & Marking	Building Construction	5/4/2021	5/5/2021	5	2	
6	4b - Below-Grade Civil Construction (Western Parcel)	Building Construction	5/6/2021	7/6/2021	5	44	
7	4c - Below-Grade Electrical Construction (Western Parcel)	Building Construction	7/7/2021	8/6/2021	5	23	
8	5 - Underground Distribution Getaways	Building Construction	8/7/2021	10/6/2021	5	60	
9	6a - Above-grade Structural Construction (Western Parcel)	Building Construction	10/7/2021	12/6/2021	5	60	
10	6b - Above-grade Electrical Construction (Western Parcel)	Building Construction	12/7/2021	2/6/2022	5	61	
11	7 - Sub-Transmission Getaways	Building Construction	2/7/2022	2/20/2022	5	13	
12	8 - Substation Testing, Energization, & Cutover	Building Construction	2/21/2022	2/23/2022	5	2	
13	9 - Demolition of the Old Substation	Demolition	2/24/2022	4/25/2022	5	60	
14	10 - Grading and Site Prep (Eastern Parcel)	Grading	4/26/2022	5/1/2022	5	5	
15	11 - Below-Grade Construction for the Storage Facility	Building Construction	5/2/2022	7/1/2022	5	60	
16	12 - Above-Grade Construction for the Storage Facility	Building Construction	7/2/2022	9/1/2022	5	61	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
1 - Mobilization & Setup	Rollers	1	6.00	80	0.38
1 - Mobilization & Setup	Rough Terrain Forklifts	1	6.00	100	0.40
1 - Mobilization & Setup	Rubber Tired Dozers	1	6.00	247	0.40
2 - Material Delivery & Inventory	Forklifts	1	2.40	89	0.20
3a - Grading & Site Prep (Western Parcel)	Graders	1	10.00	187	0.41
3a - Grading & Site Prep (Western Parcel)	Rollers	1	10.00	80	0.38
3a - Grading & Site Prep (Western Parcel)	Rubber Tired Dozers	1	10.00	247	0.40
3a - Grading & Site Prep (Western Parcel)	Scrapers	2	10.00	367	0.48
3a - Grading & Site Prep (Western Parcel)	Tractors/Loaders/Backhoes	2	10.00	97	0.37
3a - Grading & Site Prep (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
3b - Temporary Relocation of Existing Lines	Bore/Drill Rigs	1	10.00	221	0.50
3b - Temporary Relocation of Existing Lines	Cranes	1	10.00	231	0.29
3b - Temporary Relocation of Existing Lines	Rough Terrain Forklifts	1	10.00	100	0.40
4a - Civil Survey & Marking	Off-Highway Trucks	0	10.00	402	0.38
4b - Below-Grade Civil Construction (Western Parcel)	Bore/Drill Rigs	1	10.00	221	0.50
4b - Below-Grade Civil Construction (Western Parcel)	Rough Terrain Forklifts	1	10.00	100	0.40

4b - Below-Grade Civil Construction (Western Parcel)	Tractors/Loaders/Backhoes	2	10.00	97	0.37
4b - Below-Grade Civil Construction (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
4c - Below-Grade Electrical Construction (Western Parcel)	Cranes	1	10.00	231	0.29
4c - Below-Grade Electrical Construction (Western Parcel)	Excavators	1	10.00	158	0.38
4c - Below-Grade Electrical Construction (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
5 - Underground Distribution Getaways	Cranes	1	10.00	231	0.29
5 - Underground Distribution Getaways	Tractors/Loaders/Backhoes	2	10.00	97	0.37
6a - Above-grade Structural Construction (Western Parcel)	Cranes	1	12.00	231	0.29
6b - Above-grade Electrical Construction (Western Parcel)	Off-Highway Trucks	1	24.00	100	0.38
7 - Sub-Transmission Getaways	Bore/Drill Rigs	1	10.00	221	0.50
7 - Sub-Transmission Getaways	Cranes	1	10.00	231	0.29
8 - Substation Testing, Energization, & Cutover	Off-Highway Trucks	0	10.00	402	0.38
9 - Demolition of the Old Substation	Cranes	1	6.00	231	0.29
9 - Demolition of the Old Substation	Excavators	2	6.00	158	0.38
9 - Demolition of the Old Substation	Excavators	1	10.00	158	0.38
9 - Demolition of the Old Substation	Rough Terrain Forklifts	1	6.00	100	0.40
10 - Grading and Site Prep (Eastern Parcel)	Graders	1	10.00	187	0.41
10 - Grading and Site Prep (Eastern Parcel)	Rollers	1	10.00	80	0.38
10 - Grading and Site Prep (Eastern Parcel)	Rubber Tired Dozers	1	10.00	247	0.40
10 - Grading and Site Prep (Eastern Parcel)	Scrapers	1	10.00	367	0.48
10 - Grading and Site Prep (Eastern Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
10 - Grading and Site Prep (Eastern Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
11 - Below-Grade Construction for the Storage Facility	Bore/Drill Rigs	1	10.00	221	0.50

11 - Below-Grade Construction for the Storage Facility	Tractors/Loaders/Backhoes	2	10.00	97	0.37
11 - Below-Grade Construction for the Storage Facility	Tractors/Loaders/Backhoes	1	10.00	97	0.37
12 - Above-Grade Construction for the Storage Facility	Cranes	1	12.00	231	0.29

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
1 - Mobilization & Setup	3	10.00	95.00	4.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
2 - Material Delivery & Inventory	1	8.00	30.00	116.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
3a - Grading & Site Prep (Western Parcel)	8	16.00	50.00	104.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
3b - Temporary Relocation of Existing	3	10.00	75.00	30.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4a - Civil Survey & Marking	0	6.00	30.00	0.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4b - Below-Grade Civil Construction (Western	5	20.00	95.00	488.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4c - Below-Grade Electrical Construction	3	16.00	95.00	120.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
5 - Underground Distribution Getaways	3	20.00	125.00	1,200.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
6a - Above-grade Structural Constructio	1	20.00	210.00	120.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
6b - Above-grade Electrical Construction	1	30.00	141.00	122.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
7 - Sub-Transmission Getaways	2	10.00	171.00	26.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
8 - Substation Testing, Energization, & Cutov	0	12.00	171.00	0.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
9 - Demolition of the Old Substation	5	20.00	161.00	960.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
10 - Grading and Site Prep (Eastern Parcel)	6	16.00	65.00	40.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
11 - Below-Grade Construction for the St	4	20.00	95.00	480.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
12 - Above-Grade Construction for the St	1	16.00	192.00	122.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 1 - Mobilization & Setup - 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	1.0193	10.8808	6.1593	0.0110		0.5344	0.5344		0.4917	0.4917		1,061.4078	1,061.4078	0.3433		1,069.9898
Total	**1.0193**	**10.8808**	**6.1593**	**0.0110**		**0.5344**	**0.5344**		**0.4917**	**0.4917**		**1,061.4078**	**1,061.4078**	**0.3433**		**1,069.9898**

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	0.0145	0.5060	0.1071	1.5300e-003	0.0350	1.5700e-003	0.0365	9.5800e-003	1.5000e-003	0.0111		165.9079	165.9079	0.0111		166.1846
Vendor	0.1451	6.1562	1.3178	8.3000e-003	0.0903	4.2100e-003	0.0945	0.0262	4.0300e-003	0.0302		888.6762	888.6762	0.1008		891.1967
Worker	0.0422	0.0274	0.3767	1.1100e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		110.7403	110.7403	2.9800e-003		110.8148
Total	**0.2019**	**6.6896**	**1.8016**	**0.0109**	**0.2370**	**6.6000e-003**	**0.2436**	**0.0654**	**6.2900e-003**	**0.0717**		**1,165.3244**	**1,165.3244**	**0.1149**		**1,168.1961**

3.2 1 - Mobilization & Setup - 2021

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	1.0193	10.8808	6.1593	0.0110		0.5344	0.5344		0.4917	0.4917	0.0000	1,061.4078	1,061.4078	0.3433		1,069.9898
Total	**1.0193**	**10.8808**	**6.1593**	**0.0110**		**0.5344**	**0.5344**		**0.4917**	**0.4917**	**0.0000**	**1,061.4078**	**1,061.4078**	**0.3433**		**1,069.9898**

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	0.0145	0.5060	0.1071	1.5300e-003	0.0350	1.5700e-003	0.0365	9.5800e-003	1.5000e-003	0.0111		165.9079	165.9079	0.0111		166.1846
Vendor	0.1451	6.1562	1.3178	8.3000e-003	0.0903	4.2100e-003	0.0945	0.0262	4.0300e-003	0.0302		888.6762	888.6762	0.1008		891.1967
Worker	0.0422	0.0274	0.3767	1.1100e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		110.7403	110.7403	2.9800e-003		110.8148
Total	**0.2019**	**6.6896**	**1.8016**	**0.0109**	**0.2370**	**6.6000e-003**	**0.2436**	**0.0654**	**6.2900e-003**	**0.0717**		**1,165.3244**	**1,165.3244**	**0.1149**		**1,168.1961**

3.3 2 - Material Delivery & Inventory - 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	0.0388	0.3537	0.3504	4.6000e-004		0.0251	0.0251		0.0231	0.0231		44.4093	44.4093	0.0144		44.7683
Total	**0.0388**	**0.3537**	**0.3504**	**4.6000e-004**		**0.0251**	**0.0251**		**0.0231**	**0.0231**		**44.4093**	**44.4093**	**0.0144**		**44.7683**

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	0.0401	1.3975	0.2958	4.2300e-003	0.0965	4.3300e-003	0.1009	0.0265	4.1400e-003	0.0306		458.2219	458.2219	0.0306		458.9861
Vendor	0.0458	1.9441	0.4162	2.6200e-003	0.0285	1.3300e-003	0.0298	8.2800e-003	1.2700e-003	9.5500e-003		280.6346	280.6346	0.0318		281.4306
Worker	0.0338	0.0219	0.3014	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5923	88.5923	2.3800e-003		88.6518
Total	**0.1197**	**3.3634**	**1.0133**	**7.7400e-003**	**0.2144**	**6.3200e-003**	**0.2208**	**0.0584**	**6.0200e-003**	**0.0645**		**827.4487**	**827.4487**	**0.0648**		**829.0685**

3.3 2 - Material Delivery & Inventory - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0388	0.3537	0.3504	4.6000e-004		0.0251	0.0251		0.0231	0.0231	0.0000	44.4093	44.4093	0.0144		44.7683
Total	**0.0388**	**0.3537**	**0.3504**	**4.6000e-004**		**0.0251**	**0.0251**		**0.0231**	**0.0231**	**0.0000**	**44.4093**	**44.4093**	**0.0144**		**44.7683**

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	0.0401	1.3975	0.2958	4.2300e-003	0.0965	4.3300e-003	0.1009	0.0265	4.1400e-003	0.0306		458.2219	458.2219	0.0306		458.9861
Vendor	0.0458	1.9441	0.4162	2.6200e-003	0.0285	1.3300e-003	0.0298	8.2800e-003	1.2700e-003	9.5500e-003		280.6346	280.6346	0.0318		281.4306
Worker	0.0338	0.0219	0.3014	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5923	88.5923	2.3800e-003		88.6518
Total	**0.1197**	**3.3634**	**1.0133**	**7.7400e-003**	**0.2144**	**6.3200e-003**	**0.2208**	**0.0584**	**6.0200e-003**	**0.0645**		**827.4487**	**827.4487**	**0.0648**		**829.0685**

3.4 3a - Grading & Site Prep (Western Parcel) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1558	0.0000	0.1558	0.0172	0.0000	0.0172			0.0000			0.0000
Off-Road	5.1370	57.3914	35.5944	0.0718		2.5073	2.5073		2.3068	2.3068		6,952.0606	6,952.0606	2.2484		7,008.2715
Total	**5.1370**	**57.3914**	**35.5944**	**0.0718**	**0.1558**	**2.5073**	**2.6631**	**0.0172**	**2.3068**	**2.3240**		**6,952.0606**	**6,952.0606**	**2.2484**		**7,008.2715**

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	0.0755	2.6311	0.5570	7.9700e-003	0.1817	8.1600e-003	0.1899	0.0498	7.8000e-003	0.0576		862.7212	862.7212	0.0576		864.1601
Vendor	0.0764	3.2401	0.6936	4.3700e-003	0.0475	2.2200e-003	0.0497	0.0138	2.1200e-003	0.0159		467.7243	467.7243	0.0531		469.0509
Worker	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.2194**	**5.9150**	**1.8533**	**0.0141**	**0.4081**	**0.0117**	**0.4198**	**0.1110**	**0.0111**	**0.1222**		**1,507.6300**	**1,507.6300**	**0.1154**		**1,510.5146**

3.4 3a - Grading & Site Prep (Western Parcel) - 2021

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					0.1558	0.0000	0.1558	0.0172	0.0000	0.0172			0.0000			0.0000
Off-Road	5.1370	57.3914	35.5944	0.0718		2.5073	2.5073		2.3068	2.3068	0.0000	6,952.0606	6,952.0606	2.2484		7,008.2715
Total	**5.1370**	**57.3914**	**35.5944**	**0.0718**	**0.1558**	**2.5073**	**2.6631**	**0.0172**	**2.3068**	**2.3240**	**0.0000**	**6,952.0606**	**6,952.0606**	**2.2484**		**7,008.2715**

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	0.0755	2.6311	0.5570	7.9700e-003	0.1817	8.1600e-003	0.1899	0.0498	7.8000e-003	0.0576		862.7212	862.7212	0.0576		864.1601
Vendor	0.0764	3.2401	0.6936	4.3700e-003	0.0475	2.2200e-003	0.0497	0.0138	2.1200e-003	0.0159		467.7243	467.7243	0.0531		469.0509
Worker	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.2194**	**5.9150**	**1.8533**	**0.0141**	**0.4081**	**0.0117**	**0.4198**	**0.1110**	**0.0111**	**0.1222**		**1,507.6300**	**1,507.6300**	**0.1154**		**1,510.5146**

3.5 3b - Temporary Relocation of Existing Lines - 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	0.9928	11.8555	7.9387	0.0233		0.4387	0.4387		0.4036	0.4036		2,255.7131	2,255.7131	0.7295		2,273.9516
Total	**0.9928**	**11.8555**	**7.9387**	**0.0233**		**0.4387**	**0.4387**		**0.4036**	**0.4036**		**2,255.7131**	**2,255.7131**	**0.7295**		**2,273.9516**

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	0.0198	0.6900	0.1461	2.0900e-003	0.0477	2.1400e-003	0.0498	0.0131	2.0500e-003	0.0151		226.2381	226.2381	0.0151		226.6154
Vendor	0.1146	4.8602	1.0404	6.5500e-003	0.0713	3.3300e-003	0.0746	0.0207	3.1800e-003	0.0239		701.5865	701.5865	0.0796		703.5764
Worker	0.0422	0.0274	0.3767	1.1100e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		110.7403	110.7403	2.9800e-003		110.8148
Total	**0.1766**	**5.5775**	**1.5631**	**9.7500e-003**	**0.2307**	**6.2900e-003**	**0.2370**	**0.0634**	**5.9900e-003**	**0.0694**		**1,038.5649**	**1,038.5649**	**0.0977**		**1,041.0066**

3.5 3b - Temporary Relocation of Existing Lines - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9928	11.8555	7.9387	0.0233		0.4387	0.4387		0.4036	0.4036	0.0000	2,255.7131	2,255.7131	0.7295		2,273.9516
Total	**0.9928**	**11.8555**	**7.9387**	**0.0233**		**0.4387**	**0.4387**		**0.4036**	**0.4036**	**0.0000**	**2,255.7131**	**2,255.7131**	**0.7295**		**2,273.9516**

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	0.0198	0.6900	0.1461	2.0900e-003	0.0477	2.1400e-003	0.0498	0.0131	2.0500e-003	0.0151		226.2381	226.2381	0.0151		226.6154
Vendor	0.1146	4.8602	1.0404	6.5500e-003	0.0713	3.3300e-003	0.0746	0.0207	3.1800e-003	0.0239		701.5865	701.5865	0.0796		703.5764
Worker	0.0422	0.0274	0.3767	1.1100e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		110.7403	110.7403	2.9800e-003		110.8148
Total	**0.1766**	**5.5775**	**1.5631**	**9.7500e-003**	**0.2307**	**6.2900e-003**	**0.2370**	**0.0634**	**5.9900e-003**	**0.0694**		**1,038.5649**	**1,038.5649**	**0.0977**		**1,041.0066**

3.6 4a - Civil Survey & Marking - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0458	1.9441	0.4162	2.6200e-003	0.0285	1.3300e-003	0.0298	8.2800e-003	1.2700e-003	9.5500e-003		280.6346	280.6346	0.0318		281.4306
Worker	0.0253	0.0164	0.2260	6.7000e-004	0.0671	4.9000e-004	0.0676	0.0178	4.5000e-004	0.0182		66.4442	66.4442	1.7900e-003		66.4889
Total	**0.0712**	**1.9605**	**0.6422**	**3.2900e-003**	**0.0956**	**1.8200e-003**	**0.0974**	**0.0261**	**1.7200e-003**	**0.0278**		**347.0788**	**347.0788**	**0.0336**		**347.9194**

3.6 4a - Civil Survey & Marking - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0458	1.9441	0.4162	2.6200e-003	0.0285	1.3300e-003	0.0298	8.2800e-003	1.2700e-003	9.5500e-003		280.6346	280.6346	0.0318		281.4306
Worker	0.0253	0.0164	0.2260	6.7000e-004	0.0671	4.9000e-004	0.0676	0.0178	4.5000e-004	0.0182		66.4442	66.4442	1.7900e-003		66.4889
Total	**0.0712**	**1.9605**	**0.6422**	**3.2900e-003**	**0.0956**	**1.8200e-003**	**0.0974**	**0.0261**	**1.7200e-003**	**0.0278**		**347.0788**	**347.0788**	**0.0336**		**347.9194**

3.7 4b - Below-Grade Civil Construction (Western Parcel) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0100	0.0000	0.0100	1.5200e-003	0.0000	1.5200e-003			0.0000			0.0000
Off-Road	1.1790	12.9031	13.9360	0.0278		0.6118	0.6118		0.5628	0.5628		2,685.6649	2,685.6649	0.8686		2,707.3798
Total	**1.1790**	**12.9031**	**13.9360**	**0.0278**	**0.0100**	**0.6118**	**0.6218**	**1.5200e-003**	**0.5628**	**0.5644**		**2,685.6649**	**2,685.6649**	**0.8686**		**2,707.3798**

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	0.0805	2.8059	0.5940	8.5000e-003	0.1938	8.7000e-003	0.2025	0.0531	8.3200e-003	0.0614		920.0348	920.0348	0.0614		921.5693
Vendor	0.1451	6.1562	1.3178	8.3000e-003	0.0903	4.2100e-003	0.0945	0.0262	4.0300e-003	0.0302		888.6762	888.6762	0.1008		891.1967
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.3100**	**9.0168**	**2.6652**	**0.0190**	**0.5076**	**0.0146**	**0.5222**	**0.1386**	**0.0139**	**0.1525**		**2,030.1916**	**2,030.1916**	**0.1682**		**2,034.3956**

3.7 4b - Below-Grade Civil Construction (Western Parcel) - 2021

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					0.0100	0.0000	0.0100	1.5200e-003	0.0000	1.5200e-003			0.0000			0.0000
Off-Road	1.1790	12.9031	13.9360	0.0278		0.6118	0.6118		0.5628	0.5628	0.0000	2,685.6649	2,685.6649	0.8686		2,707.3798
Total	**1.1790**	**12.9031**	**13.9360**	**0.0278**	**0.0100**	**0.6118**	**0.6218**	**1.5200e-003**	**0.5628**	**0.5644**	**0.0000**	**2,685.6649**	**2,685.6649**	**0.8686**		**2,707.3798**

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	0.0805	2.8059	0.5940	8.5000e-003	0.1938	8.7000e-003	0.2025	0.0531	8.3200e-003	0.0614		920.0348	920.0348	0.0614		921.5693
Vendor	0.1451	6.1562	1.3178	8.3000e-003	0.0903	4.2100e-003	0.0945	0.0262	4.0300e-003	0.0302		888.6762	888.6762	0.1008		891.1967
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.3100**	**9.0168**	**2.6652**	**0.0190**	**0.5076**	**0.0146**	**0.5222**	**0.1386**	**0.0139**	**0.1525**		**2,030.1916**	**2,030.1916**	**0.1682**		**2,034.3956**

3.8 4c - Below-Grade Electrical Construction (Western Parcel) - 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	1.0367	11.1232	9.3936	0.0176		0.5164	0.5164		0.4751	0.4751		1,699.7885	1,699.7885	0.5498		1,713.5322
Total	**1.0367**	**11.1232**	**9.3936**	**0.0176**		**0.5164**	**0.5164**		**0.4751**	**0.4751**		**1,699.7885**	**1,699.7885**	**0.5498**		**1,713.5322**

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	0.0379	1.3199	0.2794	4.0000e-003	0.0912	4.0900e-003	0.0953	0.0250	3.9100e-003	0.0289		432.8033	432.8033	0.0289		433.5251
Vendor	0.1451	6.1562	1.3178	8.3000e-003	0.0903	4.2100e-003	0.0945	0.0262	4.0300e-003	0.0302		888.6762	888.6762	0.1008		891.1967
Worker	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.2505**	**7.5199**	**2.2000**	**0.0141**	**0.3603**	**9.6200e-003**	**0.3699**	**0.0986**	**9.1500e-003**	**0.1078**		**1,498.6640**	**1,498.6640**	**0.1345**		**1,502.0255**

3.8 4c - Below-Grade Electrical Construction (Western Parcel) - 2021

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	1.0367	11.1232	9.3936	0.0176		0.5164	0.5164		0.4751	0.4751	0.0000	1,699.7885	1,699.7885	0.5498		1,713.5322
Total	**1.0367**	**11.1232**	**9.3936**	**0.0176**		**0.5164**	**0.5164**		**0.4751**	**0.4751**	**0.0000**	**1,699.7885**	**1,699.7885**	**0.5498**		**1,713.5322**

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	0.0379	1.3199	0.2794	4.0000e-003	0.0912	4.0900e-003	0.0953	0.0250	3.9100e-003	0.0289		432.8033	432.8033	0.0289		433.5251
Vendor	0.1451	6.1562	1.3178	8.3000e-003	0.0903	4.2100e-003	0.0945	0.0262	4.0300e-003	0.0302		888.6762	888.6762	0.1008		891.1967
Worker	0.0675	0.0438	0.6028	1.7800e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		177.1845	177.1845	4.7600e-003		177.3037
Total	**0.2505**	**7.5199**	**2.2000**	**0.0141**	**0.3603**	**9.6200e-003**	**0.3699**	**0.0986**	**9.1500e-003**	**0.1078**		**1,498.6640**	**1,498.6640**	**0.1345**		**1,502.0255**

3.9 5 - Underground Distribution Getaways - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0181	0.0000	0.0181	2.7400e-003	0.0000	2.7400e-003			0.0000			0.0000
Off-Road	0.9843	10.8012	8.1292	0.0150		0.5255	0.5255		0.4835	0.4835		1,450.6736	1,450.6736	0.4692		1,462.4031
Total	**0.9843**	**10.8012**	**8.1292**	**0.0150**	**0.0181**	**0.5255**	**0.5436**	**2.7400e-003**	**0.4835**	**0.4862**		**1,450.6736**	**1,450.6736**	**0.4692**		**1,462.4031**

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	0.1451	5.0598	1.0711	0.0153	0.4540	0.0157	0.4697	0.1214	0.0150	0.1364		1,659.0791	1,659.0791	0.1107		1,661.8462
Vendor	0.1910	8.1002	1.7340	0.0109	0.1188	5.5500e-003	0.1243	0.0345	5.3000e-003	0.0398		1,169.3108	1,169.3108	0.1327		1,172.6273
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.4205**	**13.2148**	**3.5585**	**0.0285**	**0.7963**	**0.0229**	**0.8192**	**0.2152**	**0.0218**	**0.2370**		**3,049.8706**	**3,049.8706**	**0.2493**		**3,056.1031**

3.9 5 - Underground Distribution Getaways - 2021

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					0.0181	0.0000	0.0181	2.7400e-003	0.0000	2.7400e-003			0.0000			0.0000
Off-Road	0.9843	10.8012	8.1292	0.0150		0.5255	0.5255		0.4835	0.4835	0.0000	1,450.6736	1,450.6736	0.4692		1,462.4031
Total	**0.9843**	**10.8012**	**8.1292**	**0.0150**	**0.0181**	**0.5255**	**0.5436**	**2.7400e-003**	**0.4835**	**0.4862**	**0.0000**	**1,450.6736**	**1,450.6736**	**0.4692**		**1,462.4031**

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	0.1451	5.0598	1.0711	0.0153	0.4540	0.0157	0.4697	0.1214	0.0150	0.1364		1,659.0791	1,659.0791	0.1107		1,661.8462
Vendor	0.1910	8.1002	1.7340	0.0109	0.1188	5.5500e-003	0.1243	0.0345	5.3000e-003	0.0398		1,169.3108	1,169.3108	0.1327		1,172.6273
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.4205**	**13.2148**	**3.5585**	**0.0285**	**0.7963**	**0.0229**	**0.8192**	**0.2152**	**0.0218**	**0.2370**		**3,049.8706**	**3,049.8706**	**0.2493**		**3,056.1031**

3.10 6a - Above-grade Structural Construction (Western Parcel) - 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	0.6194	7.2740	2.9743	8.6500e-003		0.2953	0.2953		0.2717	0.2717		838.1082	838.1082	0.2711		844.8847
Total	**0.6194**	**7.2740**	**2.9743**	**8.6500e-003**		**0.2953**	**0.2953**		**0.2717**	**0.2717**		**838.1082**	**838.1082**	**0.2711**		**844.8847**

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	0.0145	0.5060	0.1071	1.5300e-003	0.0454	1.5700e-003	0.0470	0.0121	1.5000e-003	0.0136		165.9079	165.9079	0.0111		166.1846
Vendor	0.3208	13.6084	2.9130	0.0184	0.1995	9.3200e-003	0.2088	0.0579	8.9000e-003	0.0668		1,964.4421	1,964.4421	0.2229		1,970.0139
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.4198**	**14.1691**	**3.7736**	**0.0221**	**0.4685**	**0.0125**	**0.4810**	**0.1294**	**0.0119**	**0.1413**		**2,351.8307**	**2,351.8307**	**0.2399**		**2,357.8280**

3.10 6a - Above-grade Structural Construction (Western Parcel) - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6194	7.2740	2.9743	8.6500e-003		0.2953	0.2953		0.2717	0.2717	0.0000	838.1082	838.1082	0.2711		844.8847
Total	**0.6194**	**7.2740**	**2.9743**	**8.6500e-003**		**0.2953**	**0.2953**		**0.2717**	**0.2717**	**0.0000**	**838.1082**	**838.1082**	**0.2711**		**844.8847**

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	0.0145	0.5060	0.1071	1.5300e-003	0.0454	1.5700e-003	0.0470	0.0121	1.5000e-003	0.0136		165.9079	165.9079	0.0111		166.1846
Vendor	0.3208	13.6084	2.9130	0.0184	0.1995	9.3200e-003	0.2088	0.0579	8.9000e-003	0.0668		1,964.4421	1,964.4421	0.2229		1,970.0139
Worker	0.0844	0.0548	0.7535	2.2200e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		221.4807	221.4807	5.9600e-003		221.6296
Total	**0.4198**	**14.1691**	**3.7736**	**0.0221**	**0.4685**	**0.0125**	**0.4810**	**0.1294**	**0.0119**	**0.1413**		**2,351.8307**	**2,351.8307**	**0.2399**		**2,357.8280**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 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	0.0145	0.5060	0.1071	1.5300e-003	0.0934	1.5700e-003	0.0950	0.0239	1.5000e-003	0.0254		165.9079	165.9079	0.0111		166.1846
Vendor	0.2154	9.1371	1.9559	0.0123	0.1340	6.2600e-003	0.1402	0.0389	5.9800e-003	0.0449		1,318.9826	1,318.9826	0.1496		1,322.7236
Worker	0.1266	0.0821	1.1302	3.3300e-003	0.3353	2.4700e-003	0.3378	0.0889	2.2700e-003	0.0912		332.2210	332.2210	8.9300e-003		332.4443
Total	**0.3566**	**9.7252**	**3.1932**	**0.0172**	**0.5627**	**0.0103**	**0.5730**	**0.1518**	**9.7500e-003**	**0.1615**		**1,817.1115**	**1,817.1115**	**0.1696**		**1,821.3526**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 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	0.0145	0.5060	0.1071	1.5300e-003	0.0934	1.5700e-003	0.0950	0.0239	1.5000e-003	0.0254		165.9079	165.9079	0.0111		166.1846
Vendor	0.2154	9.1371	1.9559	0.0123	0.1340	6.2600e-003	0.1402	0.0389	5.9800e-003	0.0449		1,318.9826	1,318.9826	0.1496		1,322.7236
Worker	0.1266	0.0821	1.1302	3.3300e-003	0.3353	2.4700e-003	0.3378	0.0889	2.2700e-003	0.0912		332.2210	332.2210	8.9300e-003		332.4443
Total	**0.3566**	**9.7252**	**3.1932**	**0.0172**	**0.5627**	**0.0103**	**0.5730**	**0.1518**	**9.7500e-003**	**0.1615**		**1,817.1115**	**1,817.1115**	**0.1696**		**1,821.3526**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0138	0.4675	0.1059	1.5100e-003	0.0730	1.3500e-003	0.0744	0.0189	1.2900e-003	0.0202		163.9510	163.9510	0.0109		164.2227
Vendor	0.2002	8.8686	1.8250	0.0122	0.1340	5.3000e-003	0.1393	0.0389	5.0700e-003	0.0440		1,307.9217	1,307.9217	0.1416		1,311.4613
Worker	0.1188	0.0742	1.0451	3.2100e-003	0.3353	2.4000e-003	0.3377	0.0889	2.2100e-003	0.0911		320.3172	320.3172	8.0700e-003		320.5190
Total	**0.3327**	**9.4103**	**2.9759**	**0.0169**	**0.5423**	**9.0500e-003**	**0.5514**	**0.1468**	**8.5700e-003**	**0.1553**		**1,792.1899**	**1,792.1899**	**0.1605**		**1,796.2030**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0138	0.4675	0.1059	1.5100e-003	0.0730	1.3500e-003	0.0744	0.0189	1.2900e-003	0.0202		163.9510	163.9510	0.0109		164.2227
Vendor	0.2002	8.8686	1.8250	0.0122	0.1340	5.3000e-003	0.1393	0.0389	5.0700e-003	0.0440		1,307.9217	1,307.9217	0.1416		1,311.4613
Worker	0.1188	0.0742	1.0451	3.2100e-003	0.3353	2.4000e-003	0.3377	0.0889	2.2100e-003	0.0911		320.3172	320.3172	8.0700e-003		320.5190
Total	**0.3327**	**9.4103**	**2.9759**	**0.0169**	**0.5423**	**9.0500e-003**	**0.5514**	**0.1468**	**8.5700e-003**	**0.1553**		**1,792.1899**	**1,792.1899**	**0.1605**		**1,796.2030**

3.12 7 - Sub-Transmission Getaways - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7464	8.0634	4.9169	0.0190		0.3081	0.3081		0.2835	0.2835		1,840.4890	1,840.4890	0.5953		1,855.3703
Total	**0.7464**	**8.0634**	**4.9169**	**0.0190**		**0.3081**	**0.3081**		**0.2835**	**0.2835**		**1,840.4890**	**1,840.4890**	**0.5953**		**1,855.3703**

3.12 7 - Sub-Transmission Getaways - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0138	0.4675	0.1059	1.5100e-003	0.0429	1.3500e-003	0.0442	0.0115	1.2900e-003	0.0128		163.9510	163.9510	0.0109		164.2227
Vendor	0.2428	10.7555	2.2133	0.0148	0.1625	6.4300e-003	0.1689	0.0472	6.1500e-003	0.0533		1,586.2029	1,586.2029	0.1717		1,590.4956
Worker	0.0396	0.0247	0.3484	1.0700e-003	0.1118	8.0000e-004	0.1126	0.0296	7.4000e-004	0.0304		106.7724	106.7724	2.6900e-003		106.8397
Total	**0.2961**	**11.2477**	**2.6675**	**0.0174**	**0.3171**	**8.5800e-003**	**0.3257**	**0.0883**	**8.1800e-003**	**0.0965**		**1,856.9263**	**1,856.9263**	**0.1853**		**1,861.5580**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7464	8.0634	4.9169	0.0190		0.3081	0.3081		0.2835	0.2835	0.0000	1,840.4890	1,840.4890	0.5953		1,855.3703
Total	**0.7464**	**8.0634**	**4.9169**	**0.0190**		**0.3081**	**0.3081**		**0.2835**	**0.2835**	**0.0000**	**1,840.4890**	**1,840.4890**	**0.5953**		**1,855.3703**

3.12 7 - Sub-Transmission Getaways - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0138	0.4675	0.1059	1.5100e-003	0.0429	1.3500e-003	0.0442	0.0115	1.2900e-003	0.0128		163.9510	163.9510	0.0109		164.2227
Vendor	0.2428	10.7555	2.2133	0.0148	0.1625	6.4300e-003	0.1689	0.0472	6.1500e-003	0.0533		1,586.2029	1,586.2029	0.1717		1,590.4956
Worker	0.0396	0.0247	0.3484	1.0700e-003	0.1118	8.0000e-004	0.1126	0.0296	7.4000e-004	0.0304		106.7724	106.7724	2.6900e-003		106.8397
Total	**0.2961**	**11.2477**	**2.6675**	**0.0174**	**0.3171**	**8.5800e-003**	**0.3257**	**0.0883**	**8.1800e-003**	**0.0965**		**1,856.9263**	**1,856.9263**	**0.1853**		**1,861.5580**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2428	10.7555	2.2133	0.0148	0.1625	6.4300e-003	0.1689	0.0472	6.1500e-003	0.0533		1,586.2029	1,586.2029	0.1717		1,590.4956
Worker	0.0475	0.0297	0.4180	1.2900e-003	0.1341	9.6000e-004	0.1351	0.0356	8.8000e-004	0.0365		128.1269	128.1269	3.2300e-003		128.2076
Total	**0.2903**	**10.7852**	**2.6313**	**0.0161**	**0.2966**	**7.3900e-003**	**0.3040**	**0.0827**	**7.0300e-003**	**0.0898**		**1,714.3298**	**1,714.3298**	**0.1749**		**1,718.7032**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2428	10.7555	2.2133	0.0148	0.1625	6.4300e-003	0.1689	0.0472	6.1500e-003	0.0533		1,586.2029	1,586.2029	0.1717		1,590.4956
Worker	0.0475	0.0297	0.4180	1.2900e-003	0.1341	9.6000e-004	0.1351	0.0356	8.8000e-004	0.0365		128.1269	128.1269	3.2300e-003		128.2076
Total	**0.2903**	**10.7852**	**2.6313**	**0.0161**	**0.2966**	**7.3900e-003**	**0.3040**	**0.0827**	**7.0300e-003**	**0.0898**		**1,714.3298**	**1,714.3298**	**0.1749**		**1,718.7032**

3.14 9 - Demolition of the Old Substation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3695	0.0000	1.3695	0.2074	0.0000	0.2074			0.0000			0.0000
Off-Road	0.9203	9.1351	12.0872	0.0211		0.4053	0.4053		0.3729	0.3729		2,044.4806	2,044.4806	0.6612		2,061.0113
Total	**0.9203**	**9.1351**	**12.0872**	**0.0211**	**1.3695**	**0.4053**	**1.7748**	**0.2074**	**0.3729**	**0.5802**		**2,044.4806**	**2,044.4806**	**0.6612**		**2,061.0113**

3.14 9 - Demolition of the Old Substation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1102	3.7401	0.8471	0.0121	0.3632	0.0108	0.3740	0.0972	0.0103	0.1075		1,311.6079	1,311.6079	0.0869		1,313.7815
Vendor	0.2286	10.1265	2.0838	0.0139	0.1530	6.0600e-003	0.1590	0.0444	5.7900e-003	0.0502		1,493.4425	1,493.4425	0.1617		1,497.4842
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.4180**	**13.9161**	**3.6276**	**0.0282**	**0.7397**	**0.0185**	**0.7582**	**0.2009**	**0.0176**	**0.2184**		**3,018.5953**	**3,018.5953**	**0.2540**		**3,024.9451**

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					1.3695	0.0000	1.3695	0.2074	0.0000	0.2074			0.0000			0.0000
Off-Road	0.9203	9.1351	12.0872	0.0211		0.4053	0.4053		0.3729	0.3729	0.0000	2,044.4806	2,044.4806	0.6612		2,061.0113
Total	**0.9203**	**9.1351**	**12.0872**	**0.0211**	**1.3695**	**0.4053**	**1.7748**	**0.2074**	**0.3729**	**0.5802**	**0.0000**	**2,044.4806**	**2,044.4806**	**0.6612**		**2,061.0113**

3.14 9 - Demolition of the Old Substation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1102	3.7401	0.8471	0.0121	0.3632	0.0108	0.3740	0.0972	0.0103	0.1075		1,311.6079	1,311.6079	0.0869		1,313.7815
Vendor	0.2286	10.1265	2.0838	0.0139	0.1530	6.0600e-003	0.1590	0.0444	5.7900e-003	0.0502		1,493.4425	1,493.4425	0.1617		1,497.4842
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.4180**	**13.9161**	**3.6276**	**0.0282**	**0.7397**	**0.0185**	**0.7582**	**0.2009**	**0.0176**	**0.2184**		**3,018.5953**	**3,018.5953**	**0.2540**		**3,024.9451**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2448	0.0000	0.2448	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	3.2088	35.0899	22.5197	0.0490		1.5168	1.5168		1.3954	1.3954		4,743.9874	4,743.9874	1.5343		4,782.3449
Total	**3.2088**	**35.0899**	**22.5197**	**0.0490**	**0.2448**	**1.5168**	**1.7615**	**0.0268**	**1.3954**	**1.4222**		**4,743.9874**	**4,743.9874**	**1.5343**		**4,782.3449**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0551	1.8701	0.4235	6.0500e-003	0.1662	5.3900e-003	0.1716	0.0448	5.1600e-003	0.0500		655.8040	655.8040	0.0435		656.8908
Vendor	0.0923	4.0884	0.8413	5.6200e-003	0.0618	2.4500e-003	0.0642	0.0179	2.3400e-003	0.0203		602.9426	602.9426	0.0653		604.5744
Worker	0.0634	0.0396	0.5574	1.7100e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		170.8358	170.8358	4.3100e-003		170.9435
Total	**0.2108**	**5.9980**	**1.8222**	**0.0134**	**0.4068**	**9.1200e-003**	**0.4160**	**0.1102**	**8.6800e-003**	**0.1188**		**1,429.5824**	**1,429.5824**	**0.1131**		**1,432.4086**

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					0.2448	0.0000	0.2448	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	3.2088	35.0899	22.5197	0.0490		1.5168	1.5168		1.3954	1.3954	0.0000	4,743.9874	4,743.9874	1.5343		4,782.3449
Total	**3.2088**	**35.0899**	**22.5197**	**0.0490**	**0.2448**	**1.5168**	**1.7615**	**0.0268**	**1.3954**	**1.4222**	**0.0000**	**4,743.9874**	**4,743.9874**	**1.5343**		**4,782.3449**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0551	1.8701	0.4235	6.0500e-003	0.1662	5.3900e-003	0.1716	0.0448	5.1600e-003	0.0500		655.8040	655.8040	0.0435		656.8908
Vendor	0.0923	4.0884	0.8413	5.6200e-003	0.0618	2.4500e-003	0.0642	0.0179	2.3400e-003	0.0203		602.9426	602.9426	0.0653		604.5744
Worker	0.0634	0.0396	0.5574	1.7100e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		170.8358	170.8358	4.3100e-003		170.9435
Total	**0.2108**	**5.9980**	**1.8222**	**0.0134**	**0.4068**	**9.1200e-003**	**0.4160**	**0.1102**	**8.6800e-003**	**0.1188**		**1,429.5824**	**1,429.5824**	**0.1131**		**1,432.4086**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2400e-003	0.0000	7.2400e-003	1.1000e-003	0.0000	1.1000e-003			0.0000			0.0000
Off-Road	0.8978	9.1167	10.9437	0.0235		0.4289	0.4289		0.3946	0.3946		2,271.5971	2,271.5971	0.7347		2,289.9641
Total	**0.8978**	**9.1167**	**10.9437**	**0.0235**	**7.2400e-003**	**0.4289**	**0.4361**	**1.1000e-003**	**0.3946**	**0.3957**		**2,271.5971**	**2,271.5971**	**0.7347**		**2,289.9641**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0551	1.8701	0.4235	6.0500e-003	0.1751	5.3900e-003	0.1804	0.0470	5.1600e-003	0.0521		655.8040	655.8040	0.0435		656.8908
Vendor	0.1349	5.9753	1.2296	8.2200e-003	0.0903	3.5700e-003	0.0938	0.0262	3.4200e-003	0.0296		881.2239	881.2239	0.0954		883.6087
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.2692**	**7.8948**	**2.3498**	**0.0164**	**0.4889**	**0.0106**	**0.4994**	**0.1325**	**0.0101**	**0.1425**		**1,750.5726**	**1,750.5726**	**0.1442**		**1,754.1788**

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					7.2400e-003	0.0000	7.2400e-003	1.1000e-003	0.0000	1.1000e-003			0.0000			0.0000
Off-Road	0.8978	9.1167	10.9437	0.0235		0.4289	0.4289		0.3946	0.3946	0.0000	2,271.5971	2,271.5971	0.7347		2,289.9641
Total	**0.8978**	**9.1167**	**10.9437**	**0.0235**	**7.2400e-003**	**0.4289**	**0.4361**	**1.1000e-003**	**0.3946**	**0.3957**	**0.0000**	**2,271.5971**	**2,271.5971**	**0.7347**		**2,289.9641**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0551	1.8701	0.4235	6.0500e-003	0.1751	5.3900e-003	0.1804	0.0470	5.1600e-003	0.0521		655.8040	655.8040	0.0435		656.8908
Vendor	0.1349	5.9753	1.2296	8.2200e-003	0.0903	3.5700e-003	0.0938	0.0262	3.4200e-003	0.0296		881.2239	881.2239	0.0954		883.6087
Worker	0.0792	0.0495	0.6967	2.1400e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		213.5448	213.5448	5.3800e-003		213.6794
Total	**0.2692**	**7.8948**	**2.3498**	**0.0164**	**0.4889**	**0.0106**	**0.4994**	**0.1325**	**0.0101**	**0.1425**		**1,750.5726**	**1,750.5726**	**0.1442**		**1,754.1788**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5595	6.2764	2.8385	8.6500e-003		0.2606	0.2606		0.2398	0.2398		838.2455	838.2455	0.2711		845.0232
Total	**0.5595**	**6.2764**	**2.8385**	**8.6500e-003**		**0.2606**	**0.2606**		**0.2398**	**0.2398**		**838.2455**	**838.2455**	**0.2711**		**845.0232**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0138	0.4675	0.1059	1.5100e-003	0.0452	1.3500e-003	0.0465	0.0121	1.2900e-003	0.0134		163.9510	163.9510	0.0109		164.2227
Vendor	0.2726	12.0763	2.4851	0.0166	0.1824	7.2200e-003	0.1896	0.0530	6.9000e-003	0.0599		1,780.9998	1,780.9998	0.1928		1,785.8197
Worker	0.0634	0.0396	0.5574	1.7100e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		170.8358	170.8358	4.3100e-003		170.9435
Total	**0.3497**	**12.5834**	**3.1483**	**0.0198**	**0.4064**	**9.8500e-003**	**0.4163**	**0.1125**	**9.3700e-003**	**0.1219**		**2,115.7866**	**2,115.7866**	**0.2080**		**2,120.9858**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5595	6.2764	2.8385	8.6500e-003		0.2606	0.2606		0.2398	0.2398	0.0000	838.2455	838.2455	0.2711		845.0232
Total	**0.5595**	**6.2764**	**2.8385**	**8.6500e-003**		**0.2606**	**0.2606**		**0.2398**	**0.2398**	**0.0000**	**838.2455**	**838.2455**	**0.2711**		**845.0232**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0138	0.4675	0.1059	1.5100e-003	0.0452	1.3500e-003	0.0465	0.0121	1.2900e-003	0.0134		163.9510	163.9510	0.0109		164.2227
Vendor	0.2726	12.0763	2.4851	0.0166	0.1824	7.2200e-003	0.1896	0.0530	6.9000e-003	0.0599		1,780.9998	1,780.9998	0.1928		1,785.8197
Worker	0.0634	0.0396	0.5574	1.7100e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		170.8358	170.8358	4.3100e-003		170.9435
Total	**0.3497**	**12.5834**	**3.1483**	**0.0198**	**0.4064**	**9.8500e-003**	**0.4163**	**0.1125**	**9.3700e-003**	**0.1219**		**2,115.7866**	**2,115.7866**	**0.2080**		**2,120.9858**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Unmitigated	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hunter Substation Replacement Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	50.00	User Defined Unit	2.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2023
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 - Project-specific inputs.

Construction Phase - Project-specific schedule.

Consumer Products -

Area Coating -

Area Mitigation -

Fleet Mix -

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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	5.5381	66.9497	39.0041	0.0931	0.8144	2.5511	3.3294	0.2179	2.3477	2.5344	0.0000	9,226.7919	9,226.7919	2.4561	0.0000	9,288.1930
2022	3.4353	41.0122	24.4854	0.0617	2.1093	1.5263	2.5340	0.4082	1.4045	1.5414	0.0000	6,099.1446	6,099.1446	1.6564	0.0000	6,140.5556
Maximum	**5.5381**	**66.9497**	**39.0041**	**0.0931**	**2.1093**	**2.5511**	**3.3294**	**0.4082**	**2.3477**	**2.5344**	**0.0000**	**9,226.7919**	**9,226.7919**	**2.4561**	**0.0000**	**9,288.1930**

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	5.5381	66.9497	39.0041	0.0931	0.8144	2.5511	3.3294	0.2179	2.3477	2.5344	0.0000	9,226.7919	9,226.7919	2.4561	0.0000	9,288.1930
2022	3.4353	41.0122	24.4854	0.0617	2.1093	1.5263	2.5340	0.4082	1.4045	1.5414	0.0000	6,099.1446	6,099.1446	1.6564	0.0000	6,140.5556
Maximum	**5.5381**	**66.9497**	**39.0041**	**0.0931**	**2.1093**	**2.5511**	**3.3294**	**0.4082**	**2.3477**	**2.5344**	**0.0000**	**9,226.7919**	**9,226.7919**	**2.4561**	**0.0000**	**9,288.1930**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

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	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1 - Mobilization & Setup	Site Preparation	4/1/2021	4/2/2021	5	2	
2	2 - Material Delivery & Inventory	Site Preparation	4/4/2021	5/3/2021	5	21	
3	3a - Grading & Site Prep (Western Parcel)	Grading	4/4/2021	4/17/2021	5	10	
4	3b - Temporary Relocation of Existing Lines	Site Preparation	4/18/2021	5/3/2021	5	11	
5	4a - Civil Survey & Marking	Building Construction	5/4/2021	5/5/2021	5	2	
6	4b - Below-Grade Civil Construction (Western Parcel)	Building Construction	5/6/2021	7/6/2021	5	44	
7	4c - Below-Grade Electrical Construction (Western Parcel)	Building Construction	7/7/2021	8/6/2021	5	23	
8	5 - Underground Distribution Getaways	Building Construction	8/7/2021	10/6/2021	5	60	
9	6a - Above-grade Structural Construction (Western Parcel)	Building Construction	10/7/2021	12/6/2021	5	60	
10	6b - Above-grade Electrical Construction (Western Parcel)	Building Construction	12/7/2021	2/6/2022	5	61	
11	7 - Sub-Transmission Getaways	Building Construction	2/7/2022	2/20/2022	5	13	
12	8 - Substation Testing, Energization, & Cutover	Building Construction	2/21/2022	2/23/2022	5	2	
13	9 - Demolition of the Old Substation	Demolition	2/24/2022	4/25/2022	5	60	
14	10 - Grading and Site Prep (Eastern Parcel)	Grading	4/26/2022	5/1/2022	5	5	
15	11 - Below-Grade Construction for the Storage Facility	Building Construction	5/2/2022	7/1/2022	5	60	
16	12 - Above-Grade Construction for the Storage Facility	Building Construction	7/2/2022	9/1/2022	5	61	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
1 - Mobilization & Setup	Rollers	1	6.00	80	0.38
1 - Mobilization & Setup	Rough Terrain Forklifts	1	6.00	100	0.40
1 - Mobilization & Setup	Rubber Tired Dozers	1	6.00	247	0.40
2 - Material Delivery & Inventory	Forklifts	1	2.40	89	0.20
3a - Grading & Site Prep (Western Parcel)	Graders	1	10.00	187	0.41
3a - Grading & Site Prep (Western Parcel)	Rollers	1	10.00	80	0.38
3a - Grading & Site Prep (Western Parcel)	Rubber Tired Dozers	1	10.00	247	0.40
3a - Grading & Site Prep (Western Parcel)	Scrapers	2	10.00	367	0.48
3a - Grading & Site Prep (Western Parcel)	Tractors/Loaders/Backhoes	2	10.00	97	0.37
3a - Grading & Site Prep (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
3b - Temporary Relocation of Existing Lines	Bore/Drill Rigs	1	10.00	221	0.50
3b - Temporary Relocation of Existing Lines	Cranes	1	10.00	231	0.29
3b - Temporary Relocation of Existing Lines	Rough Terrain Forklifts	1	10.00	100	0.40
4a - Civil Survey & Marking	Off-Highway Trucks	0	10.00	402	0.38
4b - Below-Grade Civil Construction (Western Parcel)	Bore/Drill Rigs	1	10.00	221	0.50
4b - Below-Grade Civil Construction (Western Parcel)	Rough Terrain Forklifts	1	10.00	100	0.40

4b - Below-Grade Civil Construction (Western Parcel)	Tractors/Loaders/Backhoes	2	10.00	97	0.37
4b - Below-Grade Civil Construction (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
4c - Below-Grade Electrical Construction (Western Parcel)	Cranes	1	10.00	231	0.29
4c - Below-Grade Electrical Construction (Western Parcel)	Excavators	1	10.00	158	0.38
4c - Below-Grade Electrical Construction (Western Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
5 - Underground Distribution Getaways	Cranes	1	10.00	231	0.29
5 - Underground Distribution Getaways	Tractors/Loaders/Backhoes	2	10.00	97	0.37
6a - Above-grade Structural Construction (Western Parcel)	Cranes	1	12.00	231	0.29
6b - Above-grade Electrical Construction (Western Parcel)	Off-Highway Trucks	1	24.00	100	0.38
7 - Sub-Transmission Getaways	Bore/Drill Rigs	1	10.00	221	0.50
7 - Sub-Transmission Getaways	Cranes	1	10.00	231	0.29
8 - Substation Testing, Energization, & Cutover	Off-Highway Trucks	0	10.00	402	0.38
9 - Demolition of the Old Substation	Cranes	1	6.00	231	0.29
9 - Demolition of the Old Substation	Excavators	2	6.00	158	0.38
9 - Demolition of the Old Substation	Excavators	1	10.00	158	0.38
9 - Demolition of the Old Substation	Rough Terrain Forklifts	1	6.00	100	0.40
10 - Grading and Site Prep (Eastern Parcel)	Graders	1	10.00	187	0.41
10 - Grading and Site Prep (Eastern Parcel)	Rollers	1	10.00	80	0.38
10 - Grading and Site Prep (Eastern Parcel)	Rubber Tired Dozers	1	10.00	247	0.40
10 - Grading and Site Prep (Eastern Parcel)	Scrapers	1	10.00	367	0.48
10 - Grading and Site Prep (Eastern Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
10 - Grading and Site Prep (Eastern Parcel)	Tractors/Loaders/Backhoes	1	10.00	97	0.37
11 - Below-Grade Construction for the Storage Facility	Bore/Drill Rigs	1	10.00	221	0.50

11 - Below-Grade Construction for the Storage Facility	Tractors/Loaders/Backhoes	2	10.00	97	0.37
11 - Below-Grade Construction for the Storage Facility	Tractors/Loaders/Backhoes	1	10.00	97	0.37
12 - Above-Grade Construction for the Storage Facility	Cranes	1	12.00	231	0.29

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
1 - Mobilization & Setup	3	10.00	95.00	4.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
2 - Material Delivery & Inventory	1	8.00	30.00	116.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
3a - Grading & Site Prep (Western Parcel)	8	16.00	50.00	104.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
3b - Temporary Relocation of Existing	3	10.00	75.00	30.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4a - Civil Survey & Marking	0	6.00	30.00	0.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4b - Below-Grade Civil Construction (Western	5	20.00	95.00	488.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
4c - Below-Grade Electrical Construction	3	16.00	95.00	120.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
5 - Underground Distribution Getaways	3	20.00	125.00	1,200.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
6a - Above-grade Structural Constructio	1	20.00	210.00	120.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
6b - Above-grade Electrical Construction	1	30.00	141.00	122.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
7 - Sub-Transmission Getaways	2	10.00	171.00	26.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
8 - Substation Testing, Energization, & Cutov	0	12.00	171.00	0.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
9 - Demolition of the Old Substation	5	20.00	161.00	960.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
10 - Grading and Site Prep (Eastern Parcel)	6	16.00	65.00	40.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
11 - Below-Grade Construction for the St	4	20.00	95.00	480.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT
12 - Above-Grade Construction for the St	1	16.00	192.00	122.00	14.70	1.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 1 - Mobilization & Setup - 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	1.0193	10.8808	6.1593	0.0110		0.5344	0.5344		0.4917	0.4917		1,061.4078	1,061.4078	0.3433		1,069.9898
Total	**1.0193**	**10.8808**	**6.1593**	**0.0110**		**0.5344**	**0.5344**		**0.4917**	**0.4917**		**1,061.4078**	**1,061.4078**	**0.3433**		**1,069.9898**

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	0.0149	0.5120	0.1150	1.5000e-003	0.0350	1.5900e-003	0.0365	9.5800e-003	1.5200e-003	0.0111		162.8391	162.8391	0.0115		163.1275
Vendor	0.1577	6.0043	1.5811	7.6100e-003	0.0903	4.8000e-003	0.0951	0.0262	4.5800e-003	0.0308		813.7376	813.7376	0.1125		816.5500
Worker	0.0461	0.0300	0.3385	1.0400e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		103.5668	103.5668	2.7800e-003		103.6362
Total	**0.2187**	**6.5462**	**2.0346**	**0.0102**	**0.2370**	**7.2100e-003**	**0.2442**	**0.0654**	**6.8600e-003**	**0.0723**		**1,080.1434**	**1,080.1434**	**0.1268**		**1,083.3136**

3.2 1 - Mobilization & Setup - 2021

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	1.0193	10.8808	6.1593	0.0110		0.5344	0.5344		0.4917	0.4917	0.0000	1,061.4078	1,061.4078	0.3433		1,069.9898
Total	**1.0193**	**10.8808**	**6.1593**	**0.0110**		**0.5344**	**0.5344**		**0.4917**	**0.4917**	**0.0000**	**1,061.4078**	**1,061.4078**	**0.3433**		**1,069.9898**

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	0.0149	0.5120	0.1150	1.5000e-003	0.0350	1.5900e-003	0.0365	9.5800e-003	1.5200e-003	0.0111		162.8391	162.8391	0.0115		163.1275
Vendor	0.1577	6.0043	1.5811	7.6100e-003	0.0903	4.8000e-003	0.0951	0.0262	4.5800e-003	0.0308		813.7376	813.7376	0.1125		816.5500
Worker	0.0461	0.0300	0.3385	1.0400e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		103.5668	103.5668	2.7800e-003		103.6362
Total	**0.2187**	**6.5462**	**2.0346**	**0.0102**	**0.2370**	**7.2100e-003**	**0.2442**	**0.0654**	**6.8600e-003**	**0.0723**		**1,080.1434**	**1,080.1434**	**0.1268**		**1,083.3136**

3.3 2 - Material Delivery & Inventory - 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	0.0388	0.3537	0.3504	4.6000e-004		0.0251	0.0251		0.0231	0.0231		44.4093	44.4093	0.0144		44.7683
Total	**0.0388**	**0.3537**	**0.3504**	**4.6000e-004**		**0.0251**	**0.0251**		**0.0231**	**0.0231**		**44.4093**	**44.4093**	**0.0144**		**44.7683**

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	0.0412	1.4141	0.3176	4.1500e-003	0.0965	4.4000e-003	0.1009	0.0265	4.2100e-003	0.0307		449.7460	449.7460	0.0319		450.5425
Vendor	0.0498	1.8961	0.4993	2.4000e-003	0.0285	1.5100e-003	0.0300	8.2800e-003	1.4500e-003	9.7200e-003		256.9698	256.9698	0.0355		257.8579
Worker	0.0369	0.0240	0.2708	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		82.8534	82.8534	2.2200e-003		82.9089
Total	**0.1279**	**3.3341**	**1.0877**	**7.3800e-003**	**0.2144**	**6.5700e-003**	**0.2210**	**0.0584**	**6.2700e-003**	**0.0647**		**789.5692**	**789.5692**	**0.0696**		**791.3094**

3.3 2 - Material Delivery & Inventory - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0388	0.3537	0.3504	4.6000e-004		0.0251	0.0251		0.0231	0.0231	0.0000	44.4093	44.4093	0.0144		44.7683
Total	**0.0388**	**0.3537**	**0.3504**	**4.6000e-004**		**0.0251**	**0.0251**		**0.0231**	**0.0231**	**0.0000**	**44.4093**	**44.4093**	**0.0144**		**44.7683**

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	0.0412	1.4141	0.3176	4.1500e-003	0.0965	4.4000e-003	0.1009	0.0265	4.2100e-003	0.0307		449.7460	449.7460	0.0319		450.5425
Vendor	0.0498	1.8961	0.4993	2.4000e-003	0.0285	1.5100e-003	0.0300	8.2800e-003	1.4500e-003	9.7200e-003		256.9698	256.9698	0.0355		257.8579
Worker	0.0369	0.0240	0.2708	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		82.8534	82.8534	2.2200e-003		82.9089
Total	**0.1279**	**3.3341**	**1.0877**	**7.3800e-003**	**0.2144**	**6.5700e-003**	**0.2210**	**0.0584**	**6.2700e-003**	**0.0647**		**789.5692**	**789.5692**	**0.0696**		**791.3094**

3.4 3a - Grading & Site Prep (Western Parcel) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1558	0.0000	0.1558	0.0172	0.0000	0.0172			0.0000			0.0000
Off-Road	5.1370	57.3914	35.5944	0.0718		2.5073	2.5073		2.3068	2.3068		6,952.0606	6,952.0606	2.2484		7,008.2715
Total	**5.1370**	**57.3914**	**35.5944**	**0.0718**	**0.1558**	**2.5073**	**2.6631**	**0.0172**	**2.3068**	**2.3240**		**6,952.0606**	**6,952.0606**	**2.2484**		**7,008.2715**

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	0.0776	2.6624	0.5979	7.8200e-003	0.1817	8.2800e-003	0.1900	0.0498	7.9200e-003	0.0577		846.7631	846.7631	0.0600		848.2628
Vendor	0.0830	3.1601	0.8322	4.0000e-003	0.0475	2.5200e-003	0.0500	0.0138	2.4100e-003	0.0162		428.2829	428.2829	0.0592		429.7631
Worker	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.2344**	**5.8705**	**1.9717**	**0.0135**	**0.4081**	**0.0121**	**0.4202**	**0.1110**	**0.0115**	**0.1226**		**1,440.7529**	**1,440.7529**	**0.1236**		**1,443.8438**

3.4 3a - Grading & Site Prep (Western Parcel) - 2021

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					0.1558	0.0000	0.1558	0.0172	0.0000	0.0172			0.0000			0.0000
Off-Road	5.1370	57.3914	35.5944	0.0718		2.5073	2.5073		2.3068	2.3068	0.0000	6,952.0606	6,952.0606	2.2484		7,008.2715
Total	**5.1370**	**57.3914**	**35.5944**	**0.0718**	**0.1558**	**2.5073**	**2.6631**	**0.0172**	**2.3068**	**2.3240**	**0.0000**	**6,952.0606**	**6,952.0606**	**2.2484**		**7,008.2715**

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	0.0776	2.6624	0.5979	7.8200e-003	0.1817	8.2800e-003	0.1900	0.0498	7.9200e-003	0.0577		846.7631	846.7631	0.0600		848.2628
Vendor	0.0830	3.1601	0.8322	4.0000e-003	0.0475	2.5200e-003	0.0500	0.0138	2.4100e-003	0.0162		428.2829	428.2829	0.0592		429.7631
Worker	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.2344**	**5.8705**	**1.9717**	**0.0135**	**0.4081**	**0.0121**	**0.4202**	**0.1110**	**0.0115**	**0.1226**		**1,440.7529**	**1,440.7529**	**0.1236**		**1,443.8438**

3.5 3b - Temporary Relocation of Existing Lines - 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	0.9928	11.8555	7.9387	0.0233		0.4387	0.4387		0.4036	0.4036		2,255.7131	2,255.7131	0.7295		2,273.9516
Total	**0.9928**	**11.8555**	**7.9387**	**0.0233**		**0.4387**	**0.4387**		**0.4036**	**0.4036**		**2,255.7131**	**2,255.7131**	**0.7295**		**2,273.9516**

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	0.0204	0.6982	0.1568	2.0500e-003	0.0477	2.1700e-003	0.0498	0.0131	2.0800e-003	0.0151		222.0533	222.0533	0.0157		222.4465
Vendor	0.1245	4.7402	1.2482	6.0000e-003	0.0713	3.7900e-003	0.0750	0.0207	3.6200e-003	0.0243		642.4244	642.4244	0.0888		644.6447
Worker	0.0461	0.0300	0.3385	1.0400e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		103.5668	103.5668	2.7800e-003		103.6362
Total	**0.1910**	**5.4684**	**1.7436**	**9.0900e-003**	**0.2307**	**6.7800e-003**	**0.2375**	**0.0634**	**6.4600e-003**	**0.0699**		**968.0445**	**968.0445**	**0.1073**		**970.7274**

3.5 3b - Temporary Relocation of Existing Lines - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9928	11.8555	7.9387	0.0233		0.4387	0.4387		0.4036	0.4036	0.0000	2,255.7131	2,255.7131	0.7295		2,273.9516
Total	**0.9928**	**11.8555**	**7.9387**	**0.0233**		**0.4387**	**0.4387**		**0.4036**	**0.4036**	**0.0000**	**2,255.7131**	**2,255.7131**	**0.7295**		**2,273.9516**

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	0.0204	0.6982	0.1568	2.0500e-003	0.0477	2.1700e-003	0.0498	0.0131	2.0800e-003	0.0151		222.0533	222.0533	0.0157		222.4465
Vendor	0.1245	4.7402	1.2482	6.0000e-003	0.0713	3.7900e-003	0.0750	0.0207	3.6200e-003	0.0243		642.4244	642.4244	0.0888		644.6447
Worker	0.0461	0.0300	0.3385	1.0400e-003	0.1118	8.2000e-004	0.1126	0.0296	7.6000e-004	0.0304		103.5668	103.5668	2.7800e-003		103.6362
Total	**0.1910**	**5.4684**	**1.7436**	**9.0900e-003**	**0.2307**	**6.7800e-003**	**0.2375**	**0.0634**	**6.4600e-003**	**0.0699**		**968.0445**	**968.0445**	**0.1073**		**970.7274**

3.6 4a - Civil Survey & Marking - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0498	1.8961	0.4993	2.4000e-003	0.0285	1.5100e-003	0.0300	8.2800e-003	1.4500e-003	9.7200e-003		256.9698	256.9698	0.0355		257.8579
Worker	0.0277	0.0180	0.2031	6.2000e-004	0.0671	4.9000e-004	0.0676	0.0178	4.5000e-004	0.0182		62.1401	62.1401	1.6700e-003		62.1817
Total	**0.0775**	**1.9141**	**0.7024**	**3.0200e-003**	**0.0956**	**2.0000e-003**	**0.0976**	**0.0261**	**1.9000e-003**	**0.0280**		**319.1098**	**319.1098**	**0.0372**		**320.0396**

3.6 4a - Civil Survey & Marking - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0498	1.8961	0.4993	2.4000e-003	0.0285	1.5100e-003	0.0300	8.2800e-003	1.4500e-003	9.7200e-003		256.9698	256.9698	0.0355		257.8579
Worker	0.0277	0.0180	0.2031	6.2000e-004	0.0671	4.9000e-004	0.0676	0.0178	4.5000e-004	0.0182		62.1401	62.1401	1.6700e-003		62.1817
Total	**0.0775**	**1.9141**	**0.7024**	**3.0200e-003**	**0.0956**	**2.0000e-003**	**0.0976**	**0.0261**	**1.9000e-003**	**0.0280**		**319.1098**	**319.1098**	**0.0372**		**320.0396**

3.7 4b - Below-Grade Civil Construction (Western Parcel) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0100	0.0000	0.0100	1.5200e-003	0.0000	1.5200e-003			0.0000			0.0000
Off-Road	1.1790	12.9031	13.9360	0.0278		0.6118	0.6118		0.5628	0.5628		2,685.6649	2,685.6649	0.8686		2,707.3798
Total	**1.1790**	**12.9031**	**13.9360**	**0.0278**	**0.0100**	**0.6118**	**0.6218**	**1.5200e-003**	**0.5628**	**0.5644**		**2,685.6649**	**2,685.6649**	**0.8686**		**2,707.3798**

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	0.0828	2.8392	0.6376	8.3400e-003	0.1938	8.8300e-003	0.2026	0.0531	8.4500e-003	0.0616		903.0166	903.0166	0.0640		904.6159
Vendor	0.1577	6.0043	1.5811	7.6100e-003	0.0903	4.8000e-003	0.0951	0.0262	4.5800e-003	0.0308		813.7376	813.7376	0.1125		816.5500
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.3327**	**8.9035**	**2.8958**	**0.0180**	**0.5076**	**0.0153**	**0.5229**	**0.1386**	**0.0146**	**0.1532**		**1,923.8878**	**1,923.8878**	**0.1820**		**1,928.4383**

3.7 4b - Below-Grade Civil Construction (Western Parcel) - 2021

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					0.0100	0.0000	0.0100	1.5200e-003	0.0000	1.5200e-003			0.0000			0.0000
Off-Road	1.1790	12.9031	13.9360	0.0278		0.6118	0.6118		0.5628	0.5628	0.0000	2,685.6649	2,685.6649	0.8686		2,707.3798
Total	**1.1790**	**12.9031**	**13.9360**	**0.0278**	**0.0100**	**0.6118**	**0.6218**	**1.5200e-003**	**0.5628**	**0.5644**	**0.0000**	**2,685.6649**	**2,685.6649**	**0.8686**		**2,707.3798**

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	0.0828	2.8392	0.6376	8.3400e-003	0.1938	8.8300e-003	0.2026	0.0531	8.4500e-003	0.0616		903.0166	903.0166	0.0640		904.6159
Vendor	0.1577	6.0043	1.5811	7.6100e-003	0.0903	4.8000e-003	0.0951	0.0262	4.5800e-003	0.0308		813.7376	813.7376	0.1125		816.5500
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.3327**	**8.9035**	**2.8958**	**0.0180**	**0.5076**	**0.0153**	**0.5229**	**0.1386**	**0.0146**	**0.1532**		**1,923.8878**	**1,923.8878**	**0.1820**		**1,928.4383**

3.8 4c - Below-Grade Electrical Construction (Western Parcel) - 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	1.0367	11.1232	9.3936	0.0176		0.5164	0.5164		0.4751	0.4751		1,699.7885	1,699.7885	0.5498		1,713.5322
Total	**1.0367**	**11.1232**	**9.3936**	**0.0176**		**0.5164**	**0.5164**		**0.4751**	**0.4751**		**1,699.7885**	**1,699.7885**	**0.5498**		**1,713.5322**

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	0.0389	1.3356	0.2999	3.9200e-003	0.0912	4.1500e-003	0.0953	0.0250	3.9700e-003	0.0290		424.7976	424.7976	0.0301		425.5499
Vendor	0.1577	6.0043	1.5811	7.6100e-003	0.0903	4.8000e-003	0.0951	0.0262	4.5800e-003	0.0308		813.7376	813.7376	0.1125		816.5500
Worker	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.2704**	**7.3879**	**2.4227**	**0.0132**	**0.3603**	**0.0103**	**0.3705**	**0.0986**	**9.7600e-003**	**0.1084**		**1,404.2420**	**1,404.2420**	**0.1470**		**1,407.9178**

3.8 4c - Below-Grade Electrical Construction (Western Parcel) - 2021

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	1.0367	11.1232	9.3936	0.0176		0.5164	0.5164		0.4751	0.4751	0.0000	1,699.7885	1,699.7885	0.5498		1,713.5322
Total	**1.0367**	**11.1232**	**9.3936**	**0.0176**		**0.5164**	**0.5164**		**0.4751**	**0.4751**	**0.0000**	**1,699.7885**	**1,699.7885**	**0.5498**		**1,713.5322**

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	0.0389	1.3356	0.2999	3.9200e-003	0.0912	4.1500e-003	0.0953	0.0250	3.9700e-003	0.0290		424.7976	424.7976	0.0301		425.5499
Vendor	0.1577	6.0043	1.5811	7.6100e-003	0.0903	4.8000e-003	0.0951	0.0262	4.5800e-003	0.0308		813.7376	813.7376	0.1125		816.5500
Worker	0.0738	0.0480	0.5417	1.6600e-003	0.1788	1.3200e-003	0.1802	0.0474	1.2100e-003	0.0486		165.7069	165.7069	4.4400e-003		165.8179
Total	**0.2704**	**7.3879**	**2.4227**	**0.0132**	**0.3603**	**0.0103**	**0.3705**	**0.0986**	**9.7600e-003**	**0.1084**		**1,404.2420**	**1,404.2420**	**0.1470**		**1,407.9178**

3.9 5 - Underground Distribution Getaways - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0181	0.0000	0.0181	2.7400e-003	0.0000	2.7400e-003			0.0000			0.0000
Off-Road	0.9843	10.8012	8.1292	0.0150		0.5255	0.5255		0.4835	0.4835		1,450.6736	1,450.6736	0.4692		1,462.4031
Total	**0.9843**	**10.8012**	**8.1292**	**0.0150**	**0.0181**	**0.5255**	**0.5436**	**2.7400e-003**	**0.4835**	**0.4862**		**1,450.6736**	**1,450.6736**	**0.4692**		**1,462.4031**

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	0.1493	5.1199	1.1498	0.0150	0.4540	0.0159	0.4699	0.1214	0.0152	0.1367		1,628.3906	1,628.3906	0.1154		1,631.2746
Vendor	0.2075	7.9004	2.0804	0.0100	0.1188	6.3100e-003	0.1251	0.0345	6.0300e-003	0.0405		1,070.7073	1,070.7073	0.1480		1,074.4079
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.4490**	**13.0802**	**3.9073**	**0.0271**	**0.7963**	**0.0239**	**0.8202**	**0.2152**	**0.0228**	**0.2380**		**2,906.2316**	**2,906.2316**	**0.2689**		**2,912.9549**

3.9 5 - Underground Distribution Getaways - 2021

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					0.0181	0.0000	0.0181	2.7400e-003	0.0000	2.7400e-003			0.0000			0.0000
Off-Road	0.9843	10.8012	8.1292	0.0150		0.5255	0.5255		0.4835	0.4835	0.0000	1,450.6736	1,450.6736	0.4692		1,462.4031
Total	**0.9843**	**10.8012**	**8.1292**	**0.0150**	**0.0181**	**0.5255**	**0.5436**	**2.7400e-003**	**0.4835**	**0.4862**	**0.0000**	**1,450.6736**	**1,450.6736**	**0.4692**		**1,462.4031**

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	0.1493	5.1199	1.1498	0.0150	0.4540	0.0159	0.4699	0.1214	0.0152	0.1367		1,628.3906	1,628.3906	0.1154		1,631.2746
Vendor	0.2075	7.9004	2.0804	0.0100	0.1188	6.3100e-003	0.1251	0.0345	6.0300e-003	0.0405		1,070.7073	1,070.7073	0.1480		1,074.4079
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.4490**	**13.0802**	**3.9073**	**0.0271**	**0.7963**	**0.0239**	**0.8202**	**0.2152**	**0.0228**	**0.2380**		**2,906.2316**	**2,906.2316**	**0.2689**		**2,912.9549**

3.10 6a - Above-grade Structural Construction (Western Parcel) - 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	0.6194	7.2740	2.9743	8.6500e-003		0.2953	0.2953		0.2717	0.2717		838.1082	838.1082	0.2711		844.8847
Total	**0.6194**	**7.2740**	**2.9743**	**8.6500e-003**		**0.2953**	**0.2953**		**0.2717**	**0.2717**		**838.1082**	**838.1082**	**0.2711**		**844.8847**

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	0.0149	0.5120	0.1150	1.5000e-003	0.0454	1.5900e-003	0.0470	0.0121	1.5200e-003	0.0137		162.8391	162.8391	0.0115		163.1275
Vendor	0.3485	13.2726	3.4950	0.0168	0.1995	0.0106	0.2101	0.0579	0.0101	0.0681		1,798.7883	1,798.7883	0.2487		1,805.0052
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.4557**	**13.8445**	**4.2871**	**0.0204**	**0.4685**	**0.0138**	**0.4823**	**0.1294**	**0.0132**	**0.1425**		**2,168.7610**	**2,168.7610**	**0.2658**		**2,175.4050**

3.10 6a - Above-grade Structural Construction (Western Parcel) - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6194	7.2740	2.9743	8.6500e-003		0.2953	0.2953		0.2717	0.2717	0.0000	838.1082	838.1082	0.2711		844.8847
Total	**0.6194**	**7.2740**	**2.9743**	**8.6500e-003**		**0.2953**	**0.2953**		**0.2717**	**0.2717**	**0.0000**	**838.1082**	**838.1082**	**0.2711**		**844.8847**

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	0.0149	0.5120	0.1150	1.5000e-003	0.0454	1.5900e-003	0.0470	0.0121	1.5200e-003	0.0137		162.8391	162.8391	0.0115		163.1275
Vendor	0.3485	13.2726	3.4950	0.0168	0.1995	0.0106	0.2101	0.0579	0.0101	0.0681		1,798.7883	1,798.7883	0.2487		1,805.0052
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**0.4557**	**13.8445**	**4.2871**	**0.0204**	**0.4685**	**0.0138**	**0.4823**	**0.1294**	**0.0132**	**0.1425**		**2,168.7610**	**2,168.7610**	**0.2658**		**2,175.4050**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 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	0.0149	0.5120	0.1150	1.5000e-003	0.0934	1.5900e-003	0.0950	0.0239	1.5200e-003	0.0255		162.8391	162.8391	0.0115		163.1275
Vendor	0.2340	8.9116	2.3467	0.0113	0.1340	7.1200e-003	0.1411	0.0389	6.8000e-003	0.0457		1,207.7579	1,207.7579	0.1670		1,211.9321
Worker	0.1384	0.0899	1.0156	3.1200e-003	0.3353	2.4700e-003	0.3378	0.0889	2.2700e-003	0.0912		310.7004	310.7004	8.3300e-003		310.9085
Total	**0.3873**	**9.5135**	**3.4773**	**0.0159**	**0.5627**	**0.0112**	**0.5739**	**0.1518**	**0.0106**	**0.1624**		**1,681.2973**	**1,681.2973**	**0.1868**		**1,685.9681**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 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	0.0149	0.5120	0.1150	1.5000e-003	0.0934	1.5900e-003	0.0950	0.0239	1.5200e-003	0.0255		162.8391	162.8391	0.0115		163.1275
Vendor	0.2340	8.9116	2.3467	0.0113	0.1340	7.1200e-003	0.1411	0.0389	6.8000e-003	0.0457		1,207.7579	1,207.7579	0.1670		1,211.9321
Worker	0.1384	0.0899	1.0156	3.1200e-003	0.3353	2.4700e-003	0.3378	0.0889	2.2700e-003	0.0912		310.7004	310.7004	8.3300e-003		310.9085
Total	**0.3873**	**9.5135**	**3.4773**	**0.0159**	**0.5627**	**0.0112**	**0.5739**	**0.1518**	**0.0106**	**0.1624**		**1,681.2973**	**1,681.2973**	**0.1868**		**1,685.9681**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0142	0.4725	0.1134	1.4800e-003	0.0730	1.3700e-003	0.0744	0.0189	1.3100e-003	0.0202		160.8927	160.8927	0.0113		161.1755
Vendor	0.2177	8.6529	2.1956	0.0112	0.1340	6.0800e-003	0.1400	0.0389	5.8100e-003	0.0447		1,197.0266	1,197.0266	0.1581		1,200.9785
Worker	0.1301	0.0812	0.9374	3.0100e-003	0.3353	2.4000e-003	0.3377	0.0889	2.2100e-003	0.0911		299.5610	299.5610	7.5200e-003		299.7489
Total	**0.3620**	**9.2066**	**3.2464**	**0.0157**	**0.5423**	**9.8500e-003**	**0.5522**	**0.1468**	**9.3300e-003**	**0.1561**		**1,657.4803**	**1,657.4803**	**0.1769**		**1,661.9030**

3.11 6b - Above-grade Electrical Construction (Western Parcel) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0142	0.4725	0.1134	1.4800e-003	0.0730	1.3700e-003	0.0744	0.0189	1.3100e-003	0.0202		160.8927	160.8927	0.0113		161.1755
Vendor	0.2177	8.6529	2.1956	0.0112	0.1340	6.0800e-003	0.1400	0.0389	5.8100e-003	0.0447		1,197.0266	1,197.0266	0.1581		1,200.9785
Worker	0.1301	0.0812	0.9374	3.0100e-003	0.3353	2.4000e-003	0.3377	0.0889	2.2100e-003	0.0911		299.5610	299.5610	7.5200e-003		299.7489
Total	**0.3620**	**9.2066**	**3.2464**	**0.0157**	**0.5423**	**9.8500e-003**	**0.5522**	**0.1468**	**9.3300e-003**	**0.1561**		**1,657.4803**	**1,657.4803**	**0.1769**		**1,661.9030**

3.12 7 - Sub-Transmission Getaways - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7464	8.0634	4.9169	0.0190		0.3081	0.3081		0.2835	0.2835		1,840.4890	1,840.4890	0.5953		1,855.3703
Total	**0.7464**	**8.0634**	**4.9169**	**0.0190**		**0.3081**	**0.3081**		**0.2835**	**0.2835**		**1,840.4890**	**1,840.4890**	**0.5953**		**1,855.3703**

3.12 7 - Sub-Transmission Getaways - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0142	0.4725	0.1134	1.4800e-003	0.0429	1.3700e-003	0.0443	0.0115	1.3100e-003	0.0128		160.8927	160.8927	0.0113		161.1755
Vendor	0.2641	10.4939	2.6628	0.0136	0.1625	7.3700e-003	0.1698	0.0472	7.0400e-003	0.0542		1,451.7131	1,451.7131	0.1917		1,456.5059
Worker	0.0434	0.0271	0.3125	1.0000e-003	0.1118	8.0000e-004	0.1126	0.0296	7.4000e-004	0.0304		99.8537	99.8537	2.5100e-003		99.9163
Total	**0.3216**	**10.9935**	**3.0886**	**0.0160**	**0.3171**	**9.5400e-003**	**0.3267**	**0.0883**	**9.0900e-003**	**0.0974**		**1,712.4595**	**1,712.4595**	**0.2055**		**1,717.5977**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7464	8.0634	4.9169	0.0190		0.3081	0.3081		0.2835	0.2835	0.0000	1,840.4890	1,840.4890	0.5953		1,855.3703
Total	**0.7464**	**8.0634**	**4.9169**	**0.0190**		**0.3081**	**0.3081**		**0.2835**	**0.2835**	**0.0000**	**1,840.4890**	**1,840.4890**	**0.5953**		**1,855.3703**

3.12 7 - Sub-Transmission Getaways - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0142	0.4725	0.1134	1.4800e-003	0.0429	1.3700e-003	0.0443	0.0115	1.3100e-003	0.0128		160.8927	160.8927	0.0113		161.1755
Vendor	0.2641	10.4939	2.6628	0.0136	0.1625	7.3700e-003	0.1698	0.0472	7.0400e-003	0.0542		1,451.7131	1,451.7131	0.1917		1,456.5059
Worker	0.0434	0.0271	0.3125	1.0000e-003	0.1118	8.0000e-004	0.1126	0.0296	7.4000e-004	0.0304		99.8537	99.8537	2.5100e-003		99.9163
Total	**0.3216**	**10.9935**	**3.0886**	**0.0160**	**0.3171**	**9.5400e-003**	**0.3267**	**0.0883**	**9.0900e-003**	**0.0974**		**1,712.4595**	**1,712.4595**	**0.2055**		**1,717.5977**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2641	10.4939	2.6628	0.0136	0.1625	7.3700e-003	0.1698	0.0472	7.0400e-003	0.0542		1,451.7131	1,451.7131	0.1917		1,456.5059
Worker	0.0521	0.0325	0.3750	1.2000e-003	0.1341	9.6000e-004	0.1351	0.0356	8.8000e-004	0.0365		119.8244	119.8244	3.0100e-003		119.8996
Total	**0.3161**	**10.5264**	**3.0378**	**0.0148**	**0.2966**	**8.3300e-003**	**0.3049**	**0.0827**	**7.9200e-003**	**0.0907**		**1,571.5375**	**1,571.5375**	**0.1947**		**1,576.4055**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 8 - Substation Testing, Energization, & Cutover - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2641	10.4939	2.6628	0.0136	0.1625	7.3700e-003	0.1698	0.0472	7.0400e-003	0.0542		1,451.7131	1,451.7131	0.1917		1,456.5059
Worker	0.0521	0.0325	0.3750	1.2000e-003	0.1341	9.6000e-004	0.1351	0.0356	8.8000e-004	0.0365		119.8244	119.8244	3.0100e-003		119.8996
Total	**0.3161**	**10.5264**	**3.0378**	**0.0148**	**0.2966**	**8.3300e-003**	**0.3049**	**0.0827**	**7.9200e-003**	**0.0907**		**1,571.5375**	**1,571.5375**	**0.1947**		**1,576.4055**

3.14 9 - Demolition of the Old Substation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3695	0.0000	1.3695	0.2074	0.0000	0.2074			0.0000			0.0000
Off-Road	0.9203	9.1351	12.0872	0.0211		0.4053	0.4053		0.3729	0.3729		2,044.4806	2,044.4806	0.6612		2,061.0113
Total	**0.9203**	**9.1351**	**12.0872**	**0.0211**	**1.3695**	**0.4053**	**1.7748**	**0.2074**	**0.3729**	**0.5802**		**2,044.4806**	**2,044.4806**	**0.6612**		**2,061.0113**

3.14 9 - Demolition of the Old Substation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1134	3.7802	0.9071	0.0119	0.3632	0.0110	0.3742	0.0972	0.0105	0.1076		1,287.1412	1,287.1412	0.0905		1,289.4039
Vendor	0.2486	9.8803	2.5071	0.0128	0.1530	6.9400e-003	0.1599	0.0444	6.6300e-003	0.0511		1,366.8176	1,366.8176	0.1805		1,371.3301
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.4488**	**13.7146**	**4.0391**	**0.0266**	**0.7397**	**0.0195**	**0.7592**	**0.2009**	**0.0186**	**0.2194**		**2,853.6662**	**2,853.6662**	**0.2760**		**2,860.5666**

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					1.3695	0.0000	1.3695	0.2074	0.0000	0.2074			0.0000			0.0000
Off-Road	0.9203	9.1351	12.0872	0.0211		0.4053	0.4053		0.3729	0.3729	0.0000	2,044.4806	2,044.4806	0.6612		2,061.0113
Total	**0.9203**	**9.1351**	**12.0872**	**0.0211**	**1.3695**	**0.4053**	**1.7748**	**0.2074**	**0.3729**	**0.5802**	**0.0000**	**2,044.4806**	**2,044.4806**	**0.6612**		**2,061.0113**

3.14 9 - Demolition of the Old Substation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1134	3.7802	0.9071	0.0119	0.3632	0.0110	0.3742	0.0972	0.0105	0.1076		1,287.1412	1,287.1412	0.0905		1,289.4039
Vendor	0.2486	9.8803	2.5071	0.0128	0.1530	6.9400e-003	0.1599	0.0444	6.6300e-003	0.0511		1,366.8176	1,366.8176	0.1805		1,371.3301
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.4488**	**13.7146**	**4.0391**	**0.0266**	**0.7397**	**0.0195**	**0.7592**	**0.2009**	**0.0186**	**0.2194**		**2,853.6662**	**2,853.6662**	**0.2760**		**2,860.5666**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2448	0.0000	0.2448	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	3.2088	35.0899	22.5197	0.0490		1.5168	1.5168		1.3954	1.3954		4,743.9874	4,743.9874	1.5343		4,782.3449
Total	**3.2088**	**35.0899**	**22.5197**	**0.0490**	**0.2448**	**1.5168**	**1.7615**	**0.0268**	**1.3954**	**1.4222**		**4,743.9874**	**4,743.9874**	**1.5343**		**4,782.3449**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0567	1.8901	0.4536	5.9400e-003	0.1662	5.4800e-003	0.1717	0.0448	5.2400e-003	0.0500		643.5706	643.5706	0.0453		644.7020
Vendor	0.1004	3.9889	1.0122	5.1500e-003	0.0618	2.8000e-003	0.0646	0.0179	2.6800e-003	0.0206		551.8208	551.8208	0.0729		553.6426
Worker	0.0694	0.0433	0.5000	1.6000e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		159.7658	159.7658	4.0100e-003		159.8661
Total	**0.2265**	**5.9223**	**1.9657**	**0.0127**	**0.4068**	**9.5600e-003**	**0.4164**	**0.1102**	**9.1000e-003**	**0.1193**		**1,355.1573**	**1,355.1573**	**0.1221**		**1,358.2106**

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					0.2448	0.0000	0.2448	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	3.2088	35.0899	22.5197	0.0490		1.5168	1.5168		1.3954	1.3954	0.0000	4,743.9874	4,743.9874	1.5343		4,782.3449
Total	**3.2088**	**35.0899**	**22.5197**	**0.0490**	**0.2448**	**1.5168**	**1.7615**	**0.0268**	**1.3954**	**1.4222**	**0.0000**	**4,743.9874**	**4,743.9874**	**1.5343**		**4,782.3449**

3.15 10 - Grading and Site Prep (Eastern Parcel) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0567	1.8901	0.4536	5.9400e-003	0.1662	5.4800e-003	0.1717	0.0448	5.2400e-003	0.0500		643.5706	643.5706	0.0453		644.7020
Vendor	0.1004	3.9889	1.0122	5.1500e-003	0.0618	2.8000e-003	0.0646	0.0179	2.6800e-003	0.0206		551.8208	551.8208	0.0729		553.6426
Worker	0.0694	0.0433	0.5000	1.6000e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		159.7658	159.7658	4.0100e-003		159.8661
Total	**0.2265**	**5.9223**	**1.9657**	**0.0127**	**0.4068**	**9.5600e-003**	**0.4164**	**0.1102**	**9.1000e-003**	**0.1193**		**1,355.1573**	**1,355.1573**	**0.1221**		**1,358.2106**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2400e-003	0.0000	7.2400e-003	1.1000e-003	0.0000	1.1000e-003			0.0000			0.0000
Off-Road	0.8978	9.1167	10.9437	0.0235		0.4289	0.4289		0.3946	0.3946		2,271.5971	2,271.5971	0.7347		2,289.9641
Total	**0.8978**	**9.1167**	**10.9437**	**0.0235**	**7.2400e-003**	**0.4289**	**0.4361**	**1.1000e-003**	**0.3946**	**0.3957**		**2,271.5971**	**2,271.5971**	**0.7347**		**2,289.9641**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0567	1.8901	0.4536	5.9400e-003	0.1751	5.4800e-003	0.1805	0.0470	5.2400e-003	0.0522		643.5706	643.5706	0.0453		644.7020
Vendor	0.1467	5.8300	1.4793	7.5300e-003	0.0903	4.0900e-003	0.0944	0.0262	3.9100e-003	0.0301		806.5073	806.5073	0.1065		809.1699
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.2902**	**7.7742**	**2.5578**	**0.0155**	**0.4889**	**0.0112**	**0.5000**	**0.1325**	**0.0106**	**0.1431**		**1,649.7852**	**1,649.7852**	**0.1568**		**1,653.7045**

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					7.2400e-003	0.0000	7.2400e-003	1.1000e-003	0.0000	1.1000e-003			0.0000			0.0000
Off-Road	0.8978	9.1167	10.9437	0.0235		0.4289	0.4289		0.3946	0.3946	0.0000	2,271.5971	2,271.5971	0.7347		2,289.9641
Total	**0.8978**	**9.1167**	**10.9437**	**0.0235**	**7.2400e-003**	**0.4289**	**0.4361**	**1.1000e-003**	**0.3946**	**0.3957**	**0.0000**	**2,271.5971**	**2,271.5971**	**0.7347**		**2,289.9641**

3.16 11 - Below-Grade Construction for the Storage Facility - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0567	1.8901	0.4536	5.9400e-003	0.1751	5.4800e-003	0.1805	0.0470	5.2400e-003	0.0522		643.5706	643.5706	0.0453		644.7020
Vendor	0.1467	5.8300	1.4793	7.5300e-003	0.0903	4.0900e-003	0.0944	0.0262	3.9100e-003	0.0301		806.5073	806.5073	0.1065		809.1699
Worker	0.0868	0.0541	0.6250	2.0000e-003	0.2236	1.6000e-003	0.2252	0.0593	1.4700e-003	0.0608		199.7073	199.7073	5.0100e-003		199.8326
Total	**0.2902**	**7.7742**	**2.5578**	**0.0155**	**0.4889**	**0.0112**	**0.5000**	**0.1325**	**0.0106**	**0.1431**		**1,649.7852**	**1,649.7852**	**0.1568**		**1,653.7045**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5595	6.2764	2.8385	8.6500e-003		0.2606	0.2606		0.2398	0.2398		838.2455	838.2455	0.2711		845.0232
Total	**0.5595**	**6.2764**	**2.8385**	**8.6500e-003**		**0.2606**	**0.2606**		**0.2398**	**0.2398**		**838.2455**	**838.2455**	**0.2711**		**845.0232**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0142	0.4725	0.1134	1.4800e-003	0.0452	1.3700e-003	0.0465	0.0121	1.3100e-003	0.0134		160.8927	160.8927	0.0113		161.1755
Vendor	0.2965	11.7827	2.9898	0.0152	0.1824	8.2700e-003	0.1907	0.0530	7.9100e-003	0.0609		1,629.9937	1,629.9937	0.2153		1,635.3750
Worker	0.0694	0.0433	0.5000	1.6000e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		159.7658	159.7658	4.0100e-003		159.8661
Total	**0.3801**	**12.2985**	**3.6031**	**0.0183**	**0.4064**	**0.0109**	**0.4173**	**0.1125**	**0.0104**	**0.1229**		**1,950.6522**	**1,950.6522**	**0.2306**		**1,956.4166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5595	6.2764	2.8385	8.6500e-003		0.2606	0.2606		0.2398	0.2398	0.0000	838.2455	838.2455	0.2711		845.0232
Total	**0.5595**	**6.2764**	**2.8385**	**8.6500e-003**		**0.2606**	**0.2606**		**0.2398**	**0.2398**	**0.0000**	**838.2455**	**838.2455**	**0.2711**		**845.0232**

3.17 12 - Above-Grade Construction for the Storage Facility - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0142	0.4725	0.1134	1.4800e-003	0.0452	1.3700e-003	0.0465	0.0121	1.3100e-003	0.0134		160.8927	160.8927	0.0113		161.1755
Vendor	0.2965	11.7827	2.9898	0.0152	0.1824	8.2700e-003	0.1907	0.0530	7.9100e-003	0.0609		1,629.9937	1,629.9937	0.2153		1,635.3750
Worker	0.0694	0.0433	0.5000	1.6000e-003	0.1788	1.2800e-003	0.1801	0.0474	1.1800e-003	0.0486		159.7658	159.7658	4.0100e-003		159.8661
Total	**0.3801**	**12.2985**	**3.6031**	**0.0183**	**0.4064**	**0.0109**	**0.4173**	**0.1125**	**0.0104**	**0.1229**		**1,950.6522**	**1,950.6522**	**0.2306**		**1,956.4166**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.550151	0.042593	0.202457	0.116946	0.015037	0.005825	0.021699	0.034933	0.002123	0.001780	0.004876	0.000710	0.000868

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Unmitigated	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.1000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**4.7000e-004**	**5.0000e-005**	**5.1000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

Phase I Cultural Resources Assessment

PHASE I CULTURAL RESOURCES ASSESSMENT FOR THE HUNTER SUBSTATION REPLACEMENT PROJECT CITY OF RIVERSIDE, CALIFORNIA

Prepared For

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June 2020

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ATTACHMENTS

PHASE I CULTURAL RESOURCES ASSESSMENT FOR THE

HUNTER SUBSTATION REPLACEMENT PROJECT

CITY OF RIVERSIDE, CALIFORNIA

By

Patrick O. Maxon, M.A., RPA

June 2020

Submitted by:

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Section 13, Township 2 South; Range 5 West on the USGS Riverside East 7.5-Minute Quadrangle (S.B.B.M.)

Key Words: Hunter Substation; Riverside East USGS Quadrangle; Abalone (*Haliotis sp*.)

MANAGEMENT SUMMARY

PURPOSE AND SCOPE

The Hunter Substation Project site is generally located on the east side of the City of Riverside and is located on Chicago Avenue south of Columbia Avenue in the City of Riverside, California. The Project includes the existing substation site, as well as the adjacent parcel, which is also owned by the City of Riverside. The existing substation and the new substation areas comprise approximately 2.5-acres of land. TRC retained VCS to complete a Phase I Cultural Resources Study for the proposed project. The study was required as part of CEQA environmental review. The lead agency is the City of Riverside Public Utilities (RPU). All work was also completed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (NPS 1983). The report follows the guidelines contained in *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (Office of Historic Preservation 1990).

DATES OF INVESTIGATION

A records search and literature review requested of the Eastern Information Center (EIC) at the University of California, Riverside (UCR) for the Project site was completed on September 13, 2019 (Attachment A). A paleontological records search was completed by Sam McLeod of the Natural History Museum of Los Angeles County (LACM) On September 5, 2019 (Attachment B). Native American scoping was initiated by a request for a Sacred Lands File search and AB 52 contacts list on September 9, 2019. VCS received the NAHC list on September 24, 2019 (Attachment C). The survey of the Project site was conducted on September 19, 2019. The built environment evaluation was competed by Pamela Daly of Daly and Associates on October 16, 2019 (Attachment D). This report was completed by Patrick Maxon in June 2020. Personnel qualification are in Attachment E.

FINDINGS OF THE INVESTIGATION

The EIC records search identified 32 cultural resources recorded within a half-mile of the Project site. Two of these are within the Project site. Twenty-four cultural resources studies are recorded within one half-mile of the Project site. Of these, three are within the Project site. There are no known fossil localities recorded in the Project site, but are recorded nearby from similar sedimentary deposits as those on the Project site.

One Abalone shell fragment (*Haliotis sp*.) was noted on site during the survey

The Hunter Substation does not appear to be eligible for local, state or federal listing as a significant historic resource (Daly 2019)

CONSTRAINTS

The eastern parcel of Project site has been developed as a substation since the early 1960s; the northern portion of the western parcel began to be developed in the late 1960s. The southern portion of the western parcel has never been developed.

RECOMMENDED MITIGATION MEASURES

Cultural Resources Mitigation

The following MMs are being proposed by RPU to mitigate potential impacts associated with Cultural Resources:

MM CUL-1: Prior to grading permit issuance, if there are any changes to project site design and/or proposed grades, the RPU or its Engineering, Construction, and Procurement (EPC) Contractor shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City, developer/applicant, and consulting tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the project site. The City and the developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with consulting tribe, to provide tribal monitoring for ground disturbing activities.

MM CUL-2 (Archaeological, Tribal and Paleontological Monitoring): At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the RPU or its EPC Contractor shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The project archaeologist, in consultation with consulting tribes, and the RPU, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:
    a. Project grading and development scheduling;
    b. The development of a rotating or simultaneous schedule in coordination with the RPU and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists;
    c. The protocols and stipulations that the RPU, the EPC Contractor, tribes, and project archaeologist/ paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;
    d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and
    e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM CUL-4.

MM CUL-3 (Treatment and Disposition of Cultural Resources): In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project, the following procedures will be carried out for treatment and disposition of the discoveries:

1. **Consulting Tribes Notified:** within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the city evidence of notification to

consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation.

2. **Temporary Curation and Storage:** During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and
3. **Treatment and Final Disposition:** The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same:
    a. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;
    b. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation;
    c. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and
    d. At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.

MM CUL-4 (Cultural Sensitivity Training): The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

The following project design features are being proposed by RPU to mitigate potential impacts associated with Cultural Resources:

Design Feature HR-1: Section 7050.5 of the California Health and Safety Code provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human

remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains.

Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the NAHC within 24 hours which, in turn, must identify the person or persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

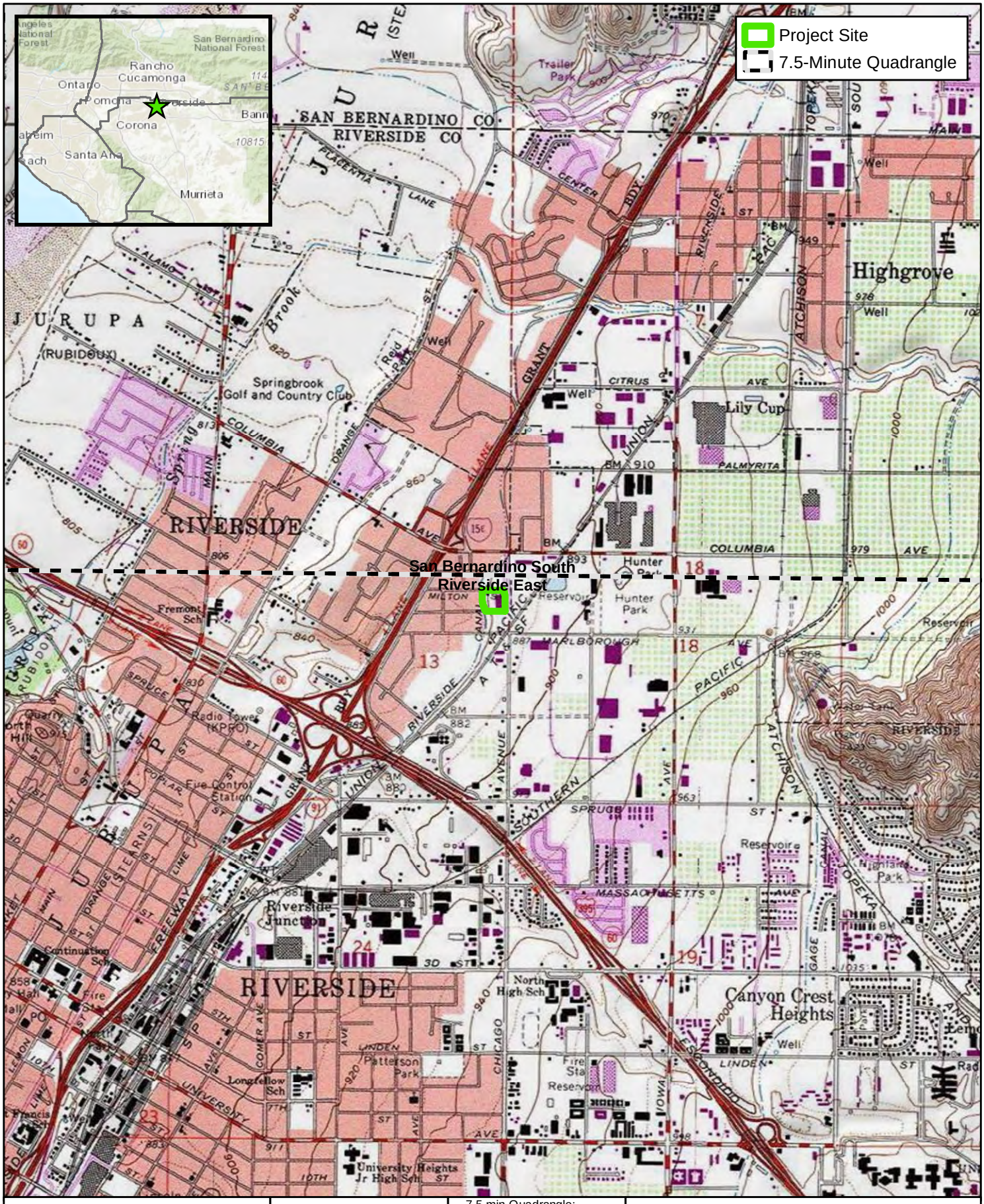
The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code, Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code, Section 5097.98).

Tribal Cultural Resources

RPU proposes to implement MMs CUL-1 through CUL-4, as outlined above, to mitigate potential impacts to Tribal Cultural Resources.

DISPOSITION OF DATA

This report will be filed with the City of Riverside Public Utilities, TRC, the EIC, and with VCS. All field notes and other documentation related to the study are on file at the VCS Orange County office.



Prepared By:

VCS Environmental

Map Created: Aug 2019

0 500 1,000 1,500 2,000 Feet

1:24,000

7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation Replacement Project

Exhibit 1: Project Site USGS Basemap

Prepared By:

VCS Environmental

Map Created: Sep 2019

0 50 100 150 Feet

1:1,800

7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation Replacement Project

Exhibit 2: Project Site Aerial

1.0 UNDERTAKING INFORMATION/INTRODUCTION

TRC retained VCS to complete a Phase I cultural resources study pursuant to the California Environmental Quality Act (CEQA) for the proposed Hunter Substation Replacement project.

The existing Hunter Substation is a 69/12kV distribution, *air insulated substation* (AIS) approximately one acre in size (fenced area). The existing Hunter Substation was construction in approximately 1960 and has been operated continuously since then by RPU. The Project site consists of the existing approximately 1.12-acre Hunter Substation site and northern driveway (eastern parcel) and the adjacent 1.38-acre vacant parcel (western parcel) where the majority of new Hunter Substation (also an AIS) will be constructed. A 10-foot concrete masonry (CMU) perimeter security wall will be constructed around the active substation portion of the overall Project Site (approximately 2.26 acres). The proposed new Hunter 69/12kV distribution substation will be an AIS and will be constructed on an undeveloped parcel immediately adjacent to the existing Hunter Substation.

1.1 PROJECT SITE

The existing 69/12 kilovolt (kV) Hunter Electrical Substation (existing Hunter Substation) is located on Chicago Avenue south of Columbia Avenue in the City of Riverside, California. The Project includes the existing substation site, as well as the adjacent parcel, which is also owned by the City of Riverside. The existing substation and the new substation areas (collectively referred to as the "Project Site") comprise an approximately 2.5-acres of land located within an urban area. The Project Site is bordered by Chicago Avenue to the east with commercial development and a railroad right-of-way beyond, a concrete storm water drainage channel to the west with a residential neighborhood beyond, and commercial building developments to the north and south.

The Project site can be seen on the USGS 7.5' Riverside East Quadrangle (Exhibit 1) and on an aerial photograph (Exhibit 2) below.

1.2 PROJECT PERSONNEL

This cultural resources study was completed by Patrick O. Maxon, M.A., RPA. Personnel qualifications are located in Attachment E.

2.0 REGULATORY SETTING

This section contains a discussion of the applicable laws, ordinances, regulations, and standards that govern cultural resources and must be adhered to both prior to and during project implementation. The report is intended to satisfy the requirements of the California Environmental Quality Act (CEQA) (*California Public Resources Code* [PRC], Section 21083.2) and the State CEQA Guidelines (*California Code of Regulations* [CCR], Title 14, Section 15064.5).

2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires a lead agency to determine whether a project would have a significant effect on one or more historical resources. According to Section 15064.5(a) of the State CEQA Guidelines, a "historical resource" is defined as a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (PRC Section21084.1); a resource included in a local register of historical resources (14 CCR 15064.5[a][2]); or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a][3]).

The basic guidelines that were used for the cultural resources study were Section 5024.1 of the PRC; Section 15064.5 of the State CEQA Guidelines (14 CCR); and Sections 21083.2 and 21084.1 of the CEQA Statutes. PRC 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The purpose of the CRHR is to maintain a list of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR, which were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP (per the criteria listed at 36 CFR 60.4), are stated below.

> The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and that:
>
> (1) Are associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; or
>
> (2) Are associated with the lives of persons important to local, California, or national history; or
>
> (3) Embody the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master, or that possess high artistic values; or
>
> (4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition, according to Section 15064.5(a)(3)(A–D) of the State CEQA Guidelines (14 CCR), a resource is considered historically significant if it meets the criteria for listing in the NRHP (per the criteria listed at 36 CFR 60.4). Impacts that affect those characteristics of the resource that qualify it for the NRHP or that would adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered to have a significant effect on the environment. Impacts to cultural resources from a proposed project are thus considered significant if the project would (1) physically destroy or damage all or part of a resource; (2) change the character of the use of the resource or physical feature within the setting of the resource that contributes to its significance;

or (3) introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

The purpose of a cultural resources investigation is to evaluate whether any cultural resources remain exposed on the surface of the Project site or can reasonably be expected to exist in the subsurface. If resources are discovered, management recommendations would be required for evaluation of the resources for NRHP or CRHR eligibility.

Broad mitigation guidelines for treating historical resources are codified in Section 15126.4(b) of the State CEQA Guidelines. To the extent feasible, public agencies should seek to avoid significant effects to historical resources, with preservation in place being the preferred alternative. If not feasible, a data recovery plan shall be prepared to guide subsequent excavation. Mitigation for historical resources (e.g., buildings, bridges, and other structures) that is consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Weeks and Grimmer 1995) is generally considered mitigated to below a level of significance.

2.2 ASSEMBLY BILL (AB) 52

This project is subject to the requirements of Assembly Bill (AB) 52. AB52 is applicable to projects that have filed a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) or notice of a Mitigated Negative Declaration (MND) or Negative Declaration (ND) on or after July 1, 2015. The law requires lead agencies to initiate consultation with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project and have requested such consultation, prior to determining the type of CEQA documentation that is applicable to the project (i.e., EIR, MND, ND). Significant impacts to "tribal cultural resources" are considered significant impacts to the environment.

For "tribal cultural resources," PRC §21074, enacted and codified as part of a 2014 amendment to CEQA through Assembly Bill 52, provides the statutory definition as follows:

"Tribal cultural resources" are either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
   (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

To determine if such resources exist, under AB 52 (PRC §21080.3.1) lead agencies must consult with tribes that request consultation and must make a reasonable and good faith effort to mitigate the impacts of a development on such resources to a less than significant level. AB52 allows tribes 30 days after receiving notification to request consultation and the lead agency must then initiate consultation within 30 days of the request by tribes.

The City of Riverside RPU is undertaking AB 52 consultation with interested tribes.

2.3 CITY OF RIVERSIDE GENERAL PLAN

The City of Riverside's General Plan 2025 Historic Preservation Element (HP-1 to HP-7 encourages, among other things, the identification, interpretation and designation of the City's cultural resources.

Policy HP-1.3 states that "The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and Federal cultural resources protection and management laws in its planning and project review process.

2.4 HUMAN REMAINS

Section 7050.5 of the *California Health and Safety Code* provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains.

Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, they must notify the Native American Heritage Commission (NAHC) within 24 hours which, in turn, must identify the person or persons it believes to be the most likely descended from the deceased Native American. The descendant(s) shall complete his/her inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

3.0 CULTURAL SETTING

3.1 PREHISTORY

Several chronologies are generally used to describe the sequence of prehistoric periods of Southern California. William Wallace (1955) developed the first comprehensive California chronologies and defines four periods for the southern coastal region.

Wallace's synthesis is largely "descriptive and classificatory, emphasizing the content of archaeological cultures and the relationships among them" (Moratto 1984:159). Wallace relies upon the concept of "cultural horizons", which are generally defined by the temporal and spatial distribution of a set of normative cultural traits, such as the distribution of a group of commonly associated artifact types. As a result, Wallace's model does not allow for much cultural variation in the same time period, nor does it provide precise chronological dates for each temporal division. Although now more than 50 years old, the general schema of the Wallace chronology has provided a general framework for Southern California prehistory that remains valid today.

Horizon I: Early Man or Paleo-Indian Period (11,000 BCE[1] to 7,500 BCE). While Wallace (1955) initially termed this period the Early Man Horizon (I), this early stage of human occupation is commonly referred to as the Paleo-Indian Period today (Chartkoff and Chartkoff 1984:24). The precise start of this period is still a topic of considerable debate. At inland archaeological sites, the surviving material culture of this period is primarily lithic, consisting of large, extremely well made stone projectile points and tools such as scrapers and choppers. Encampments were probably temporary, located near major kills or important resource areas.

Horizon II: Milling Stone Assemblages (7,500 BCE to 1,000 BCE). Encompassing a broad expanse of time, the Milling Stone Period was named for the abundant millingstone tools associated with sites of this period. These tools, the mano and metate, were used to process small, hard seeds from plants associated with shrub-scrub vegetation communities. An annual round of seasonal migrations was likely practiced, with movements coinciding with ripening vegetal resources and the periods of maximal availability of various animal resources. Along the coast, shell midden sites are common site types. Some formal burials, occasionally with associated grave goods, are also evident. This period of time is roughly equivalent to Warren's (1968) Encinitas Tradition. Warren (1968) suggests that, as millingstones are common and projectile points are comparatively rare during this period of time, hunting was less important than the gathering of vegetable resources.

More recent studies suggest that a diversity of subsistence activities, including hunting of various game animals, were practiced during this period (Koerper 1981; Koerper and Drover 1983). At present, little is known about cultural change during this time period in Southern California. While this lack of noticeable change gives the appearance of cultural stasis, almost certainly many regional and temporal cultural shifts did occur. Future research that is focused on temporal change in the Milling Stone Period would greatly benefit the current understanding of Southern California prehistory.

Horizon III: Intermediate Cultures (1,000 BCE to 750 CE[2]). The Intermediate Period is identified by a mixed strategy of plant exploitation, terrestrial hunting, and maritime subsistence strategies. Chipped stone tools (e.g., projectile points) generally decrease in size, but increase in number. Abundant bone and shell remains have been recovered from sites dating to these time periods.

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1 BCE is defined as "Before Common Era" and generally refers to that time period commonly referred to as "Before Christ" (B.C.).

2 CE is defined as "Common Era" and generally refers to that time period commonly referred to as "annō Dominī" (A.D.).

In coastal areas, the introduction of the circular shell fishhook and the growing abundance of fish remains in sites over the course of the period suggest a substantial increase in fishing activity during the Intermediate Horizon. It is also during this time period that mortar and pestle use intensified dramatically. The mano and metate continued to be in use on a reduced scale, but the greatly intensified use of the mortar and pestle signaled a shift away from a subsistence strategy based on seed resources to that of the acorn. It is probably during this time period that the acorn became the food staple of the majority of the indigenous tribes in Southern California. This subsistence strategy continued until European contact. Material culture became more diverse and elaborate and included steatite containers, perforated stones, bone tools, ornamental items, and asphalt adhesive.

Horizon IV: Late Prehistoric Cultures (750 CE to 1769 CE). During the Late Prehistoric Period, exploitation of many food resources, particularly marine resources among coastal groups, continued to intensify. The material culture in the Late Prehistoric Horizon increased in complexity in terms of the abundance and diversity of artifacts being produced. The recovery and identification of a number of small projectile points during this period likely suggests a greater utilization of the bow and arrow, which was likely introduced near the end of the Intermediate Period. Shell beads, ornaments, and other elements of material culture continue to be ornate, varied, and widely distributed; the latter evidence suggests elaborate trade networks. Warren's (1968) scheme divides the late prehistoric period into several regional traditions. Western Riverside County, Orange County, and the Los Angeles Basin area are considered part of the "Shoshonean" tradition, which may be related to a possible incursion of Takic speakers into these areas during this period. The Late Prehistoric Period includes the first few centuries of early European contact (1542–1769 CE); it is also known as the Protohistoric Period as there was a low level of interaction between native Californians and Europeans prior to Portolá's overland expedition in 1769.

In the few centuries prior to European contact, the archaeological record reveals substantial increases in the indigenous population (Wallace 1955:223). Some village sites may have contained as many as 1,500 individuals. Apparently, many of these village sites were occupied throughout the year rather than seasonally. This shift in settlement strategy was likely influenced by improved food procurement and storage technology, which enabled population growth and may have helped stimulate changes in sociopolitical organization.

Evidence is growing that prehistoric cultural change has been much more variable through time and across culture areas than previously thought. Cultural traits such as maritime economies, seafaring, complex trade networks, and year-round occupation of villages appear to have developed much earlier than previously thought. Culture change during the Late Prehistoric Period, in particular, may have been driven more by environmental and resource pressures than optimal adaptation to the environment (Byrd and Raab 2007).

3.2 ETHNOGRAPHIC

At the time of contact in 1769, when Gaspar de Portolá's expedition crossed the area, the Gabrielino Native Americans (also Tongva and Kizh) occupied the area around the Project site. The Spanish named the Gabrielino after the Mission San Gabriel Archangel. The Gabrielino spoke Takic (Shoshonean) languages. However, after Spanish contact, populations shifted and the Serrano and Cahuilla tribes also occupied the general area. A discussion of each tribe follows.

Gabrielino/Tongva/Kizh

Settlement

According to Bean and Smith (1978:538), the Gabrielino are, in many ways, one of the least known groups of California's native inhabitants. In addition to much of the Los Angeles Basin, they occupied the offshore islands of Santa Catalina, San Nicolas, and San Clemente. Gabrielino populations are difficult to reconstruct. However, at any one time, as many as 50 to 100 villages were simultaneously occupied. Like the prehistoric culture before them, the Gabrielino were a hunter/gatherer group who lived in small sedentary or semi-sedentary groups of 50 to 100 persons, termed rancherias. These rancherias were occupied by at least some of the people all of the time. Location of the encampment was determined by water availability. Houses were circular in form and constructed of sticks covered with thatch or mats. Each village had a sweat lodge as well as a sacred enclosure (Bean and Smith 1978). Although the earliest description of the Gabrielino dates back to the Cabrillo expedition of 1542, the most important and extensive accounts were those written by Father Gerónimo Boscana about 1822 and Hugo Reid in 1852.

Subsistence

Gabrielino subsistence relied heavily on plant foods, but was supplemented with a variety of meat, especially from marine resources. Food procurement consisted of hunting and fishing by men and gathering of plant foods and shellfish by women. Hunting technology included use of bow and arrow for deer and smaller game, throwing sticks, snares, traps, and slings. Fishing was conducted with the use of shell fishhooks, bone harpoons, and nets. Seeds were gathered with beaters and baskets. Seeds and other foods were stored in baskets. Seeds were prepared with manos and metates and/or mortars and pestles. Food was cooked in baskets coated with asphaltum, in stone pots, on steatite frying pans, and by roasting in earthen ovens (Bean and Smith 1978).

Trade

Most trade between settlements was through reciprocity (barter), indicated by strings of Olivella shell beads used as a medium of exchange throughout Southern California (Ruby 1970). Gabrielino and Juaneño from the mainland probably traded trade beads, game, and plant foods in exchange for shell beads and steatite, and plant foods from the islanders. Steatite artifacts along with fish, shell money, and animal pelts were traded by the mainlander Gabrielino into the interior for seeds and deer skin. According to Bean and Saubel (1972), the Gabrielino traded with the Serrano and the Cahuilla to the east. The Gabrielino traded goods such as shell beads, dried fish, sea otter pelts, asphaltum, and steatite for goods such as salt, obsidian, deer hides, furs, and acorns. There is evidence of trade between the Arizona Hohokam and the Gabrielino, probably with the Mojave people as middleman (Koerper in Mason et al. 1997). *Glycymeris* shell bracelets, ceramics, and blankets may have been exchanged for Pacific shells and shell beads (Koerper in Mason et al. 1997).

Religion

Aside from shamanistic curing rituals, principal religious activity is related to the Chinigchinich cult that emphasized correct behavior as promulgated by a mythical figure, Chinigchinich. The Chinigchinich religion developed in Gabrielino territory and spread southeast to the Juaneño/Luiseño, Cupeño, and Ipai. It is a cult that is tied into an older creation myth. Chinigchinich is said to give laws and punishment for those who are disobedient in which shamans were given responsibilities to oversee the cult. It was an extensive system of polar opposites (duality) that are united under higher principals (unity) (Applegate 1979). Male-Female dualism found in the creation myth is also present in the origin myth (Applegate 1979). Chinigchinich cult ceremonies included boys' puberty ceremonies using *toloache,* a drug made from Jimson Weed (*Datura stramonium*). During the vision quest, a personal protector or totemic animal was acquired. Such totems could be bear, coyote, crow, or rattlesnake. Other ceremonies were to obtain vengeance on enemies; to express thanks for victory; and to commemorate the dead. The focus of the ceremonies was a circular sacred enclosure found in each village. The emphasis on male rites of passage and war may be a response to the increasing population and resultant competition for territory and access to resources. Or it may be a response to the arrival of the Spanish since the Chinigchinich religion seems to be of recent (not prehistoric) origin.

Both inhumation (burial in a grave) and cremation was practiced. During cremations, the goods of the deceased and his hut were often buried with him. Annual mourning ceremonies were held in the late summer for all who had died during the previous year. Clothes of the deceased and an image of the deceased were often burned at this time. Eagles were sacrificed for recently deceased chiefs (Applegate 1979).

The Gabrielino community of *Horuuvgna* was known to be have been nearby. It was located on the Jurupa land grant near the present-day City of Riverside, immediately southwest of the Project site. Its name may have been derived from the sagebrush that grew there (McCawley 1996:49-50). The term *Horuuvgna* may be related to the term *Jurupa*, which is a Serrano placename as the Serrano replaced the Gabrielino in much of the area in the early 1800s (McCawley 1996:49). Most of the Gabrielino villages were abandoned around 1805 due to rapid decline from European-introduced diseases (Singer 1985).

Serrano

The Serrano peoples occupied the San Bernardino Mountains area east of Cajon Pass and north near Victorville, eastward to Twentynine Palms and south to the Yucaipa Valley. They also occupied a stretch of lowland south of the mountains from Cucamonga east to Mentone and partially up San Timoteo Canyon (Kroeber 1925). Elevations range from 1,500 feet amsl (above mean sea level) in the desert to over 11,000 feet amsl in the San Bernardino Mountains (Bean and Smith 1978).

The Serrano, along with the Vanyume and Kitanemuk, spoke the Serran dialect of the Takic linguistic family, part of the Uto-Aztecan Stock. These three groups are also culturally more similar to each other than the more distantly related Takic language speakers - the Gabrielino, Luiseño, Cahuilla, and Cupeño that were located to the south and west (Moratto 1984; Bean and Smith 1978).

The locations of Serrano villages were determined by accessibility to water; therefore, they typically lived in small villages near water sources. In addition to willow framed, tule thatched domed family dwellings, Serrano villages also included large ceremonial structures where the lineage leader resided. It also served as the center for each lineage (Bean and Smith 1978 571). Granaries, sweathouses, and ramadas were also present.

The Serrano subsistence economy consisted chiefly of hunting and gathering and occasional fishing. Acorns and Pinion nuts formed the staple vegetable food for foothill groups. These staples were supplemented by various roots, bulbs, shoots and seed. Game animals included deer, mountain sheep, antelope, rabbit and other rodents, and various birds – particularly quail (Bean and Smith 1978).

Cahuilla

The Cahuilla were an ethnographic Native American group descended from Late Prehistoric Takic-speaking inhabitants of the region (Bean 1978:576 and Bean and Shipek 1978:551). The name Cahuilla is believed to have originated from the group's word *káwiya* for "master" or "boss" (Bean 1978:575). Important ethnographic data about the Cahuilla were collected by Barrows (1900), Kroeber (1908, 1925), Hooper (1920), Strong (1929), Drucker (1937), Patencio (1943), Bean (1964, 1972, 1978), Bean and Saubel (1972), and Heizer (1974). Additional information is also presented in more general publications by James (1960), Bean and Bourgeault (1989), Bean and Lawton (1979), Bean et al. (1991), and Dozier (1998).

The territory of the Cahuilla has been described as topographically diverse, "from the summit of the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, a portion of the Colorado Desert west of Orocopia Mountain to the east, and the San Jacinto Plain near Riverside and the eastern slopes of Palomar Mountain to the west" (Bean 1978:575). Three main divisions of the Cahuilla—Desert, Pass (or Western), and Mountain groups—were defined mainly by geographic distribution, but dialectic differentiation was apparent (Strong 1929). A network of trails linking Cahuilla villages and those of neighboring groups facilitated trade and maintenance of social ties. Core or "classic" Cahuilla territory is often regarded as the Coachella Valley and well-watered, palm-lined canyons at the eastern foot of the San Jacinto Mountains.

The Cahuilla were hunter-gatherers who followed a seasonal round of utilizing various floral and faunal resources occurring in their territory (Bean 1972, 1978; Bean and Saubel 1972). Because Cahuilla territory was comprised of high mountains and arid lowlands, their seasonal round has been characterized as vertical rather than horizontal, with people moving upward and downward in layers of ecological zones ordered by elevation (Bean 1972). Settled villages were located near reliable water sources and within range of various resources (food, wood for fuel, and lithic materials for tools). Each village was composed of a group of individuals that were related by blood or marriage and which retained its own specific hunting and resource collecting areas. Cahuilla lineage groups were linked together in a complex interaction sphere of trade, alliance, intermarriage, and ceremonial exchange with neighboring groups such as the Serrano, Luiseño, Cupeño, Juaneño, Gabrielino and desert groups to the north and east.

Major villages were fully occupied during winter, but during other seasons task groups headed out in periodic forays to collect available plant foods, with larger groupings from several villages organizing for annual acorn harvests. Bean and Saubel (1972) have recorded several hundred species of plants used by the Cahuilla for food, utilitarian materials, and medicines. Major plant foods emphasized during late prehistory included acorns, mesquite, screwbean, pinyon nuts, and various seed-producing legumes that were complemented by agave, wild fruits and berries, tubers, cactus bulbs, roots, and greens. Hunting was accomplished with the throwing stick and bow and arrow; nets and traps were also used for small animals (Bean 1972).

Cahuilla architecture consisted of dome-shaped and rectangular dwellings, a ceremonial house, sweathouse, and storage granaries. The Cahuilla were skilled in the making of basketry, pottery, and items fashioned from plant materials and animal skins. Stone tools consisted of two general types: ground stone tools (e.g., mortars, pestles, manos, and metates for pounding and grinding) and flaked stone tools (e.g., knives, drills, and projectile points for cutting and piercing). Ground stone

tools were typically made from granite or other coarse stone. Flaked stone tools were typically made from chert, jasper, basalt, quartz, quartzite, obsidian, and other fine-grained stone in which breakage patterns could be controlled and sharp edges would result. Other types of tools and utilitarian articles were fashioned from wood and animal bone.

Distinctive rock paintings (pictographs) are located throughout Cahuilla territory, graphically illustrating ritual and ceremonial life. Usually red and geometric in form, these images have been linked with the shamanistic quest for spirit helpers, as well as with the sphere of social relations, settlement pattern, and landscape symbolism (see Shepard 1996; Whitley 1996). Rock carvings (petroglyphs) also occur, including cupules (small abraded pits), which are often found in Late Period village sites across Southern California (Hedges 1973). Cupules typically occur in clusters on the tops or sides of boulders. Usually seen in random profusion but occasionally in ordered patterns, cupules indicate highly ritualistic activity and were multi-vocal in symbolism and purpose, including puberty rites, supplication and healing, and access to supernatural power (Whitley 1996:95–96, 204).

3.3 HISTORY

The major historic periods for the greater Southern California area are defined by key events documented by participants, witnesses, historians, and cartographers. Paramount among these was the transfer of political control over Alta California, including the study area specifically.

- Spanish Period (1769–1821)
- Mexican Period (1821–1848)
- American Period (1848-Present)

The historic era encompasses the period of occupation by European descendants. This period marked a time of disease, exploitation, and deculturation of the native peoples beginning circa 1769 with the founding of the Mission San Diego de Alcalá. The occupation and control by the Spanish was passed on to Mexico after the latter gained its independence in 1821. The Mexican Period, in turn, gave way to control by the United States subsequent to the Mexican-American War and the treaty of Guadalupe Hidalgo in 1848.

Spanish Period (1769 to 1821)

Spanish explorer Juan Rodriguez Cabrillo made a temporary landfall at the Chumash village of *Sisolop* (present-day Ventura) on October 12, 1542 (Grant 1978:518). He was the first of several early explorers, representing several nations, to explore the *Alta California* coast. However, the end of the prehistoric era in Southern California is marked by the arrival of the Gaspar de Portolá overland expedition from New Spain (Mexico) and founding of the first Spanish settlement at San Diego on July 16, 1769 (Johnston 1962). With the onset of the Spanish Period, the Cahuilla first came into direct contact with Europeans when Spanish friar/explorer Francisco Garcés searched the southeastern deserts for mission sites in 1771 (Beck and Haase 1974:15). More certainly, they witnessed Juan Bautista de Anza's overland expedition pass through their territory in 1774 after the founding of Mission San Diego (1769) had inaugurated the Spanish Period in Alta California. Spanish presence in the region intensified with the establishment of *asistencias* (outlying chapels for the missions) in several inland locations (Pala in 1816, Santa Ysabel in 1818, and San Bernardino/Redlands in 1819).

Mexican Period (1821 to 1848)

Mexico's independence from Spain in 1821 brought the Mexican Period in Alta California. The new government of Mexico had a very different outlook on mission activities. Secularization of the missions, planned under the Spanish, was greatly accelerated by the Mexican government.

Mexico secularized the missions in 1833 and expanded on the Spanish practice of granting large tracts of ranch land to soldiers, civil servants, and pioneers. Plans to provide land, training, and living quarters for the Native American population never developed and the mission lands were soon under the control of a relatively few influential Mexican families. The rancho lifestyle was relatively short lived, but remains an influential period in California history.

American Period (1848 to Present)

Americans began to explore Alta California as early as 1826, when trapper Jedediah Smith arrived at Mission San Gabriel (Lewis 1993:441). An increasing influx of Americans from the eastern United States during the 1840s spurred an American challenge for the California territory. The American Period began with Mexico's defeat at the end of the Mexican-American War, resulting in the concession of California and other territory to the United States under the Treaty of Guadalupe Hidalgo on February 2, 1848 (Rolle 1998:91, 104). Only a few days before the treaty was signed, gold was discovered on the American River, however the Gold Rush of 1848–1849 did not begin until several months later

American dominance became more apparent in 1850 when California became a state and was divided into 21 original counties (Marschner 2000). Riverside County was not formed until 1893, using areas previously allocated to the original San Diego County of 1850 (7,300 square miles) and San Bernardino County, established in 1853 (590 square miles) (Coy 1973:291).

4.0 METHODS

4.1 CULTURAL RESOURCES RECORDS SEARCH

A Records search and literature review of the Project site was conducted at the Eastern Information Center (EIC) at University of California, Riverside (UCR) on September 13, 2019 (Attachment A).

Sources consulted included archaeological records, Archaeological Determinations of Eligibility, historic maps, and the Historic Property Data File (HPDF) maintained by the California Office of Historic Preservation. The HPDF contains listings for the CRHR and/or NRHP, California Historical Landmarks, and California Points of Historical Interest.

This report was completed in October 2019. It follows the guidelines contained in *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (Office of Historic Preservation 1990).

4.2 PALEONTOLOGICAL RESOURCES RECORDS SEARCH

Sam McLeod of the Natural History Museum of Los Angeles County (NHMLAC) conducted a review of the museum's geologic and vertebrate paleontological records for the Project site and vicinity on September 5, 2019 (Attachment B).

4.3 PEDESTRIAN SURVEY

On September 19, 2019, Patrick Maxon conducted the pedestrian archaeological reconnaissance survey of the Project site. The Project site consists of two parcels: the eastern parcel supports the existing Hunter Substation, which was only accessed by Pam Daly, the Architectural Historian; and the western parcel, which has been completely cleared of previous minor development with dirt remaining. Transects no greater that 5 meters wide were walked across the western parcel in a north/south direction.

4.4 SACRED LANDS FILE AND TRIBAL CONTACTS LIST

Native American consultation was initiated by a request of the Native American Heritage Commission for a Sacred Lands File search and AB 52 contacts list on September 9, 2019. The NAHC responded by letter on September 24, 2019 (Attachment C).

4.5 BUILT ENVIRONMENT EVALUATION

Pamela Daly of Daly and Associates was retained by VCS to complete an evaluation of the existing Hunter Substation. It was constructed in 1960 and thus was evaluated as it had surpassed 50 years in age. (Attachment D).

5.0 RESULTS

5.1 CULTURAL RESOURCES RECORDS SEARCH

The Eastern Information Center completed a California Historic Resources Information System (CHRIS) records search (Attachment A) which concluded that there have been 24 cultural resources studies completed within one-half mile of the Project site. Three of those studies (RI-05748, RI-04430, and RI-04431) included at least a portion of the Project site. There are also 10 additional overview studies in the vicinity. Native American tribes may have additional historical resource information which could be elucidated during tribal consultation efforts.

Reports

Table 1: Cultural Resources Studies Within One-Half Mile of the Project Site

Report Number	Author/Year	Type of Study
**RI-00026	Akin/1971	Survey; 0 resources
**RI-00535	Bean et al./1979	Survey; 17 resources
**RI-01312	Meighan/1975	Research; 0 resources
**RI-01955	Heller et al./1977	Research; 0 resources
**RI-02050	Perault/1985	Survey; 0 resources
RI-03190	Peak & Assoc./1990	Survey; 9 resources
RI-03383	Padon/1991	Survey; 2 resources
**RI-03604	Jones/1992	Master's Thesis - Luiseño
RI-03605	Wlodarski/1993	Survey; 7 resources
RI-03693	Foster et al./1991	Survey; 10 resources
RI-04228	Love & Tang/1999	Survey; 1 resource
RI-04404	Jones & Stokes/2000	Survey; 20 resources
*RI-04430	Jones & Stokes/2000	Survey; 10 resources
*RI-04431	Jones & Stokes/1999	Survey; 0 resources
**RI-04762	Barker & Huston/1990	Mining conference plan; 0 resources
**RI-04813	NPS/1993	HAER document; 3 resources
RI-05056	McKenna/2003	Survey; 4 resources
**RI-05088	CSR/2005	Research; 5 resources
RI-05719	Lumpp/2003	Research; 0 resources
*RI-05748	Doan et al./2003	Survey; 6 resources
RI-05993	Tibbet & Smallwood/2003	Survey; 1 resource
RI-05998	Tang et al./2003	Survey; 0 resources
RI-06001	Tang et al./2003	Survey; 1 resource
RI-06088	Bricker/1998	Survey; 30 resources
RI-06148	Aislin/Kay & Taniguchi/2004	Survey; 0 resources
RI-07235	Harper/2003	Survey; 0 resources
RI-07322	Bonner & Aislin-Kay/2006	Survey; 0 resources
RI-07352	Tibbet et al./2007	Survey; 0 resources
RI-08441	Allred/2010	Survey; 0 resources
RI-09832	Wills & Williams/2015	Survey; 0 resources
RI-10030	Mason & Bonner/1998	Survey; 0 resources
RI-10673	Ocampo/2015	Research; 0 resources

Report Number	Author/Year	Type of Study
**RI-10691	Curl/1979	Survey; 0 resources
RI-10710	Haas & Vargas/2017	Survey; 1 resource
*Located on the project site **Overview Studies		

RI-04430. Jones & Stokes/2000: This study was a 25-acre survey for a fiber optic cable line from Riverside to the California border. Ten resources were noted. None are on the current Project site.

RI-04431. Jones & Stokes/1999: This study was a 2.25-acre survey for a fiber optic cable line from Los Angeles to Riverside. No resources were noted.

RI-05748. Doan et. al./ 2003: This was an Archaeological Sensitivity Assessment for the Hunter Park Redevelopment project in the City of Riverside, California. Six resources are noted. None are on the current Project site.

Resources

The records search also concluded that there are 32 resources recorded within a 1/2-mile radius of the Project site. Two of these cultural resources have been recorded within the Project site.

Table 2: Cultural Resources Recorded Within One-Half Mile of the Project Site

Site Number	Recorder/Year (most recent)	Description
*P-33-004495	Austerman/2016	Riverside Upper Canal
*P-33-004791	Brunzell/2011	Riverside Lower Canal
P-33-006936	Newman/1982	Single family home - adobe
P-33-006947	Newman/1982	Single family home - adobe
P-33-011538	Starzak et al./1996	Calvary Deaf Church Annex
P-33-011539	Starzak & Zier/1996	Hopalong Cassidy House
P-33-012149	Bricker/1998	Single family home
P-33-012150	Bricker/1998	Single family home
P-33-012151	Bricker/1998	Single family home
P-33-012152	Bricker/1998	Single family home
P-33-012153	Bricker/1998	Single family home
P-33-012154	Bricker/1998	Single family home
P-33-012155	Bricker/1998	Single family home
P-33-012156	Bricker/1998	Single family home
P-33-012157	Bricker/1998	Single family home
P-33-012158	Bricker/1998	Single family home
P-33-012159	Bricker/1998	Single family home
P-33-012160	Bricker/1998	Single family home
P-33-012161	Bricker/1998	Single family home
P-33-012162	Bricker/1998	Single family home
P-33-012163	Bricker/1998	Single family home
P-33-012164	Bricker/1998	Single family home
P-33-012165	Bricker/1998	Single family home

Site Number	Recorder/Year (most recent)	Description
P-33-012166	Bricker/1998	Single family home
P-33-012167	Bricker/1998	Single family home
P-33-012168	Bricker/1998	Single family home
P-33-012169	Bricker/1998	Single family home
P-33-012170	Bricker/1998	Single family home
P-33-012171	Bricker/1998	Single family home
P-33-013078	Smallwood/2003	Single family home
P-33-013535	Tang/2003	Single family home
P-33-013536	Smallwood/2003	Single family home
*Located on the project site		

P-33-004495: This site is the Riverside Upper Canal that extends along the western boundary of the Project site. It will not be impacted during the proposed project.

P-33-004791: This site is the Riverside Lower Canal that extends along the western boundary of the Project site. It will not be impacted during the proposed project.

Internet Research

Internet research on the project, and an examination of historical aerial photographs at HistoricAerials.com (NETRONLINE n.d.), revealed that the Riverside Canal already extended through the area prior to 1938, but the current Project site was not yet developed. By 1948 a small development is evident in the northwest corner of what now is the Project site; immediately adjacent to the Canal. That early development had been expanded by 1959, and the substation in the eastern parcel was constructed by 1966. Further expansion occurred before 1978. By 1994, much of the northern portion of the western parcel appears to be developed and trees have grown larger and thicker. The substation was also expanded by that time. Sometime after 2016, the western parcel was completely cleared of built resources and vegetation. It remains in that state today.

5.2 PALEONTOLOGICAL RESOURCES RECORDS SEARCH

The Natural History Museum of Los Angeles County (NHMLAC) completed a Vertebrate Paleontology Records Check on September 5, 2019 (Attachment B) that determined no paleontological resources are recorded on the Project site, although fossils have been found and recorded in similar sedimentary deposits nearby.

> *Surficial deposits in the entire proposed project area consist of older Quaternary Alluvium, derived as alluvial fan deposits from the Box Spring Mountains to the east. In this vicinity these deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but at modest depth they may well contain significant fossil vertebrate remains. Our closest fossil vertebrate locality from older Quaternary deposits is LACM 7811, almost due west of the proposed project area west of Mira Loma along Sumner Avenue north of Cloverdale Road, that produced a fossil specimen of whipsnake, Masticophis, at a depth of 9 to 11 feet below the surface. Additionally, our locality LACM 1207, west-southwest of the proposed project area between Corona and Norco, produced a fossil specimen of deer, Odocoileus. (Mcleod 2019).*

According to McLeod (2019), surface grading or shallow excavations in the Quaternary Alluvium probably will not uncover significant vertebrate fossil remains. However, excavations that extend down into the finer-grained, older Quaternary deposits could encounter significant fossils. Excavations below the uppermost layers in the proposed project area, therefore, should be monitored by a qualified paleontologist. Sediment samples should also be collected from the older deposits to determine their small fossil potential.

5.3 PEDESTRIAN SURVEY

A pedestrian archaeological survey was conducted by Patrick Maxon, RPA on September 19, 2019. Transects no greater that 5 meters wide were walked across the western parcel in a north/south direction.

A wooden power pole (12N3) was noted and is still in use in the northeastern corner of the western parcel. These are ubiquitous and not a significant cultural resource.

A small fragment of Abalone shell (*Haliotis sp.*) was noted lying on the surface of the northwestern portion of the western parcel. It was collected by Mr. Maxon and is in temporary storage at VCS Environmental. This item is indicative of Native American use of the area, but these shells were also often collected in modern times.

Refer to photographs below.

Western parcel. View to south

Eastern Parcel and Hunter Substation. View to east

Power Pole 12N3. View to east

Abalone fragment (*Haliotis sp.)*

5.4 SACRED LANDS FILE AND TRIBAL CONTACTS LIST

Native American consultation, pursuant to the requirements of Assembly Bill (AB) 52, was initiated by a request of the Native American Heritage Commission for a Sacred Lands File search and AB 52 tribal contacts list on September 9, 2019. The NAHC responded by letter on September 24, 2019. The results of the NAHC's SLF search was *negative* for the presence of sacred lands (refer to Attachment C). The NAHC identified the following tribes as having traditional lands or cultural places within the County:

- Agua Caliente Band of Cahuilla Indians. Jeff Grubbe Chairperson;
- Agua Caliente Band of Cahuilla Indians. Patricia Garcia-Plotkin, Director and THPO;
- Augustine Band of Cahuilla Mission Indians. Amanda Vance, Chairperson;
- Cabazon Band of Mission Indians. Doug Welmas, Chairperson;
- Cahuilla Band of Indians. Daniel Salgado, Chairperson;
- Los Coyotes Band of Cahuilla and Cupeño Indians. Shane Chapparosa, Chairperson;
- Morongo Band of Mission Indians. Robert Martin, Chairperson;
- Morongo Band of Mission Indians. Denisa Torres, Cultural Resources Manager;
- Ramona Band of Cahuilla. Joseph Hamilton, Chairperson;
- San Fernando Band of Mission Indians. Donna Yocum, Chairperson;

- San Manuel Band of Mission Indians. Lee Claus, Director of Cultural Resources;
- Santa Rosa Band of Cahuilla Indians. Mercedes Estrada;
- Santa Rosa Band of Cahuilla Indians. Steven Estrada, Chairperson;
- Serrano Nation of Mission Indians. Mark Cochrane, Co-Chairperson;
- Serrano Nation of Mission Indians. Wayne Walker, Co-Chairperson;
- Soboba Band of Luiseño Indians. Scott Cozart, Chairperson;
- Soboba Band of Luiseño Indians, Joseph Ontiveros, Cultural Resource Department; and
- Torrez-Martinez Desert Cahuilla Indians. Michael Mirelez, Cultural Resources Coordinator.

The above list includes all local tribes that may have knowledge of the Project site; however, under the AB 52 guidelines, the RPU need only contact tribes from a list of tribes that have requested to be included on the RPU's list. The following tribes are on the RPU's AB 52 contact list:

- Gabrieleno Band of Mission Indians – Kizh Nation. Andrew Salas, Chairman;
- Soboba Band of Luiseño Indians. Jose Ontiveros, Cultural Resources;
- Cahuilla Band of Indians. Andreas Heredia, Cultural Director;
- Pechanga Cultural Resources Dept. Ebru T. Ozdil, Planning Specialist;
- Rincon Band of Luiseño Indians. Destiny Colocho, Cultural Resources;
- San Manuel Band of Mission Indians. Lee Clauss, Director of Cultural Resources;
- Cultural Resources Specialist. Travis Armstrong;
- Morongo Band of Mission Indians. Robert Martin, Tribal Chairman;
- Agua Caliente Band of Cahuilla Indians. Patricia Garcia Director of Tribal Historical. Preservation Office; and
- San Gabriel Band of Mission Indians. Anthony Morales, Chief.

VCS provided a draft tribal contact letter to Fady Megala, RPU Principal Engineer, on October 1, 2019. After one revision, the final draft of the letter was emailed to Mr. Megala on October 2, 2019. Mr. Megala stated that he would request guidance on conducting the consultation after the letters are mailed. The RPU will be conducting all AB 52 consultation.

5.5 BUILT ENVIRONMENT EVALUATION

Pam Daly of Daly and Associates completed the Hunter Substation evaluation on October 16, 2019. The Substation was determined not eligible for listing locally, by the state, or federally. Findings excerpted from Daly (2019) follow.

> *Under National Register, California Register, or City of Riverside criteria relating to the substations association with significant historical events that exemplifying broad patterns of our history, Hunter Substation does not appear to qualify as a significant historic resource. The Riverside substation was one of thousands that*

were constructed across the United States as part of regional and local electric grids after World War II. Archival research does not reveal that Hunter Substation was the site of any significant historic events. There is no evidence that the substation is eligible for listing under Criterion A/1.

Under criteria relating to Hunter Substation's direct association with persons of historic importance, the substation does not appear to qualify as a significant resource. There is no evidence that the substation was directly associated with persons important to the technological advancement in electric power, or with persons important in the City of Riverside, California, or the United States. The substation has been determined not eligible for listing under Criterion B/2.

Under National Register, California Register, or City of Riverside criteria relating to the distinctive characteristics of a type, period, region, or method of construction, Hunter Substation is not significant, as it does not embody a high level of technological sophistication, nor does it appear to have been designed or constructed by a notable engineer using cutting-edge technology. Built in the 1950s and 1960s using a utilitarian design and commonly available equipment, these types of urban substations were widely found throughout the United States. Since its original construction, Hunter Substation has been constantly upgraded through repairs and maintenance for improved efficiency. Hunter Substation does not appear eligible for listing under Criterion C/3.

There does not appear to be evidence to believe that the site of Hunter Substation has the potential to yield important information regarding the history of the City of Riverside, California, or the nation pursuant to Criterion D/4.

Refer to Attachment D for the Daly (2019) report.

6.0 SUMMARY/CONCLUSIONS

One cultural resource (Abalone shell fragment) was identified on the Project site as a result of the project survey; however, it is unclear if it is prehistoric or a modern occurrence. Because of the presence of this resource; the proximity to the Santa Ana River floodplain, and the potential for resources in the vicinity of the river; the fact that the southern portion of the western parcel has never been developed; as well as the general cultural sensitivity of the area, there remains the potential for buried resources to be present on site. The paleontological records search revealed that, while there were no fossil localities on the Project site, there are fossils recorded nearby from similar sedimentary deposits as those on the Project site. Surficial deposits at the surface in the Project site consist of older Quaternary alluvial fan deposits that are not paleontologically sensitive; however, excavations into the deeper, finer-grained older Quaternary Alluvium may encounter significant vertebrate fossils. Any deeper excavations; therefore, should be monitored by a qualified paleontologist to identify and recover any significant fossil remains. Because the precise depth of these sensitive sediments is not known and it can be difficult to differentiate the sediments, an estimated depth will be used in the proposed measure. This depth may vary across the site. Therefore, it is recommended that archaeological, paleontological, and tribal monitoring of ground disturbing activities be undertaken. The following mitigation measure describes the recommended action.

7.0 RECOMMENDED MITIGATION MEASURES

RPU and VCS are recommending Mitigation Measures to avoid potentially significant impacts to cultural resources and tribal cultural resources.

Cultural Resources Mitigation

The following MMs are being proposed by RPU to mitigate potential impacts associated with Cultural Resources:

MM CUL-1: Prior to grading permit issuance, if there are any changes to project site design and/or proposed grades, the RPU or its Engineering, Construction, and Procurement (EPC) Contractor shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City, developer/applicant, and consulting tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the project site. The City and the developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with consulting tribe, to provide tribal monitoring for ground disturbing activities.

MM CUL-2 (Archaeological, Tribal and Paleontological Monitoring): At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the RPU or its EPC Contractor shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

2. The project archaeologist, in consultation with consulting tribes, and the RPU, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:

    f. Project grading and development scheduling;

    g. The development of a rotating or simultaneous schedule in coordination with the RPU and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists;

    h. The protocols and stipulations that the RPU, the EPC Contractor, tribes, and project archaeologist/ paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;

    i. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and

    j. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM CUL-4.

MM CUL-3 (Treatment and Disposition of Cultural Resources): In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project, the following procedures will be carried out for treatment and disposition of the discoveries:

4. **Consulting Tribes Notified:** within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the city evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation.
5. **Temporary Curation and Storage:** During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and
6. **Treatment and Final Disposition:** The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same:

    e. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;

    f. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation;

    g. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and

    h. At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.

MM CUL-4 (Cultural Sensitivity Training): The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

The following project design features are being proposed by RPU to mitigate potential impacts associated with Cultural Resources:

Design Feature HR-1: Section 7050.5 of the California Health and Safety Code provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains.

Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the NAHC within 24 hours which, in turn, must identify the person or persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code, Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code, Section 5097.98).

o Tribal Cultural Resources

RPU proposes to implement MMs CUL-1 through CUL-4, as outlined above, to mitigate potential impacts to Tribal Cultural Resources.

8.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this cultural resources report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: October 2019 SIGNED:

Patrick O. Maxon, M.A., RPA
Director – Cultural Services

9.0 REFERENCES

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ATTACHMENT A

CULTURAL RESOURCES RECORDS SEARCH (EIC)

EASTERN INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology, University of California, Riverside, CA 92521-0418
(951) 827-5745 - eickw@ucr.edu
Inyo, Mono, and Riverside Counties

September 13, 2019
CHRIS Access and Use Agreement No.: 506
ST-RIV-5339

Patrick Maxon
VCS Environmental
30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, CA 92675

Re: Cultural Resources Records Search for the Hunter Substation Project

Dear Patrick Maxon:

We received your request on August 28, 2019, for a cultural resources records search for the Hunter Substation project located in Section 13. T.2S, R.5W, SBBM, in the city of Riverside in Riverside County. We have reviewed our site records, maps, and manuscripts against the location map you provided.

Our records indicate that 24 cultural resources studies have been conducted within a half-mile radius of your project area. Three of these studies involved the project area. PDF copies of these reports are included for your reference. Ten additional studies provide overviews of cultural resources in the general project vicinity. All of these reports are listed on the attachment entitled "Eastern Information Center Report Detail" and are available upon request at 15¢/page plus $40/hour for hard copies.

Our records indicate that 32 cultural resources properties have been recorded within a half-mile radius of your project area. Two of these properties involved the project area. PDF copies of the records are included for your reference. All of these resources are listed on the attachment entitled "Eastern Information Center Resource Detail".

The above information is reflected on the enclosed maps. Areas that have been surveyed are highlighted in yellow. Numbers marked in blue ink refer to the report number (RI #). Cultural resources properties are marked in red; numbers in black refer to Trinomial designations, those in green to Primary Number designations. National Register properties are indicated in light blue.

Additional sources of information consulted are identified below.

National Register of Historic Places: no listed properties are located within the boundaries of the project area.

Office of Historic Preservation (OHP), Archaeological Determinations of Eligibility (ADOE): One property (P-33-004495 [CA-RIV-004495) is listed and is determined eligible for inclusion on the National Register of Historic Places. The applicable portion of this directory is enclosed for your study needs.

Office of Historic Preservation (OHP), Directory of Properties in the Historic Property Data File (HPD): One property (P-33-011539) is listed and is determined eligible for

inclusion on the National Register of Historic Places. One property (P-33-006947) is listed and is potentially eligible for inclusion on the National Register of Historic Places. Twenty-one properties (P-33-012150, P33-012151, P-33-012152, P-33-012153, P-33-012154, P-33-012155, P-33-012156, P-33-012157, P-33-012158, P-33-012159, P-33-012160, P-33-012161, P-33-12162, P-33-012163, P-33-012164, P-33-012165, P-33-012166, P-33-012167, P-33-012168, P-33-012169, P-33-012170) are listed and are ineligible for inclusion on the National Register of Historic Places. One property (P-33-006936) is listed and is not evaluated for inclusion on the National Register of Historic Places. The applicable portion of this directory is enclosed for your study needs.

Note: not all properties in the California Historical Resources Information System are listed in the OHP ADOE and HPD; the ADOE and HPD comprise lists of properties submitted to the OHP for review.

A copy of the relevant portions of the 1901 USGS Elsinore 30',1942 USGS Riverside 15', and 1901 USGS Riverside 15' topographic maps are included for your reference.

As the Information Center for Riverside County, it is necessary that we receive a copy of all cultural resources reports and site information pertaining to this county in order to maintain our map and manuscript files. Confidential information provided with this records search regarding the location of cultural resources outside the boundaries of your project area should not be included in reports addressing the project area.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by the IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Sincerely,

Eulices Lopez
Information Officer

Enclosures

Report Detail: RI-00026

Identifiers

Report No.: RI-00026

Other IDs:

Type	*Name*
NADB-R	1080025
Voided	MF-0032

Cross-refs:

Citation information

Author(s): Margie Akin

Year: 1971

Title: A Survey of the Archaeological Resources of the Santa Ana and San Jacinto River Basins

Affliliation: Department of Anthropology, U.C. Riverside

No. pages: 10

No. maps:

Attributes: Archaeological, Field study

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): Riverside

USGS quad(s): AGUANGA, ALBERHILL, BACHELOR MTN, BEAUMONT, BLACK STAR CANYON, BLACKBURN CANYON, CABAZON, CAHUILLA MOUNTAIN, CORONA NORTH, CORONA SOUTH, EL CASCO, FALLBROOK, FONTANA, FOREST FALLS, GUASTI, HEMET, LAKE ELSINORE, LAKE FULMOR, LAKE MATHEWS, LAKEVIEW, MURRIETA, PECHANGA, PERRIS, PRADO DAM, REDLANDS, RIVERSIDE EAST, RIVERSIDE WEST, ROMOLAND, SAGE, SAN BERNARDINO SOUTH, SAN JACINTO, SANTIAGO PEAK, SITTON PEAK, STEELE PEAK, SUNNYMEAD, TEMECULA, VAIL LAKE, WILDOMAR, WINCHESTER, YUCAIPA

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	9/19/1988	EIC
Last modified:	8/21/2009	Jackie

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
8/21/2009	Jackie	Updated

Record status:

Report Detail: RI-00535

Identifiers

Report No.: RI-00535

Other IDs:

Type	*Name*
NADB-R	1080574
Voided	MF-0466

Cross-refs:

Citation information

Author(s): Lowell John Bean., Sylvia Brakke Vane, Matthew C. Hall, Harry Lawton, Richard Logan, Lee Gooding Massey, John Oxendine, Charles Rozaire, and David P. Whistler

Year: 1979 (Mar)

Title: Cultural Resources and the Devers-Mira 500 kV Transmission Line Route (Valley to Mira Loma Section)

Affliliation: Cultural Systems Research, Incorporated, Menlo Park, CA

No. pages: 127

No. maps:

Attributes: Archaeological, Field study, Literature search

Inventory size: 42 Miles x 15 Miles surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-000114	CA-RIV-000114	
P-33-000630	CA-RIV-000630	
P-33-000714	CA-RIV-000714	
P-33-000807	CA-RIV-000807	
P-33-000984	CA-RIV-000984	
P-33-001078	CA-RIV-001078	
P-33-001241	CA-RIV-001241	
P-33-001442	CA-RIV-001442	
P-33-001448	CA-RIV-001448	
P-33-001449	CA-RIV-001449	
P-33-001450	CA-RIV-001450	
P-33-001649	CA-RIV-001649	
P-33-001651	CA-RIV-001651	
P-33-001652	CA-RIV-001652	
P-33-001653	CA-RIV-001653	
P-33-001654	CA-RIV-001654	
P-33-001656	CA-RIV-001656	

No. resources: 17

Has informals: Yes

Location information

County(ies): Riverside

USGS quad(s): ALBERHILL, BACHELOR MTN, CORONA NORTH, CORONA SOUTH, EL CASCO, LAKE ELSINORE, LAKE MATHEWS, LAKEVIEW, PERRIS, RIVERSIDE EAST, RIVERSIDE WEST, ROMOLAND, SANTIAGO PEAK, SITTON PEAK, STEELE PEAK, SUNNYMEAD, WILDOMAR, WINCHESTER

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	10/19/1988	EIC
Last modified:	8/10/2018	studenteic

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.

6/26/2009	Jackie	updated

Record status:

Report Detail: RI-01312

Identifiers

Report No.: RI-01312

Other IDs:	*Type*	*Name*
	NADB-R	1081485
	Voided	MF-1313

Cross-refs:

Citation information

Author(s): Clement W. Meighan
Year: 1975
Title: Historical Resources in Three Southern California Counties
Affliliation: Department of Archaeological Survey, U.C. Los Angeles
No. pages: 44
No. maps:
Attributes: Architectural/historical, Other research
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): Riverside
USGS quad(s): AGUANGA, ALBERHILL, ANZA, ARICA MTNS, ARLINGTON MINE, AUGUSTINE PASS, AZTEC MINES, BACHELOR MTN, BEAUMONT, BEAUTY MOUNTAIN, BIG MARIA MTNS SE, BIG MARIA MTNS SW, BIG MARIA MTS NE, BIG MARIA MTS NW, BLACK STAR CANYON, BLACKBURN CANYON, BLYTHE, BLYTHE NE, BUCKSNORT MTN, BUTTERFLY PEAK, BUZZARD SPRING, CABAZON, CADIZ VALLEY SE, CADIZ VALLEY SW, CAHUILLA MOUNTAIN, CANADA GOBERNADORA, CATCLAW FLAT, CATHEDRAL CITY, CHUCKWALLA SPRING, CLARK LAKE NE, CLARKS PASS, COLLINS VALLEY, CONEJO WELL, CORN SPRING, CORONA NORTH, CORONA SOUTH, COTTONWOOD BASIN, COTTONWOOD SPRING, COXCOMB MTS, DESERT CENTER, DESERT HOT SPRINGS, DURMID, EAST DECEPTION CANYON, EAST OF AZTEC MINES, EAST OF GRANITE PASS, EAST OF RED CANYON, EAST OF VICTORY PASS, EL CASCO, FALLBROOK, FONTANA, FORD DRY LAKE, FOREST FALLS, FRIED LIVER WASH, FRINK NE, FRINK NW, GRANITE PASS, GROMMET, GUASTI, HAYFIELD, HAYFIELD SPRING, HEMET, HOPKINS WELL, HUMBUG MTN, IDYLLWILD, INCA, INDIAN COVE, INDIO, IRIS PASS, JOSHUA TREE SOUTH, KEYS VIEW, LA PAZ MTN, LA QUINTA, LAKE ELSINORE, LAKE FULMOR, LAKE MATHEWS, LAKEVIEW, LITTLE CHUCKWALLA MOUNTAINS, LITTLE MARIA MTNS, MALAPAI HILL, MARTINEZ MOUNTAIN, MCCOY PK, MCCOY SPRING, MCCOY WASH, MECCA, MORONGO VALLEY, MORTMAR, MULE WASH, MURRIETA, MYOMA, NEW DALE, OASIS, OROCOPIA CANYON, PALEN LAKE, PALEN MOUNTAINS, PALEN PASS, PALM SPRINGS, PALM VIEW PEAK, PALO VERDE, PARKER SW, PECHANGA, PERRIS, PILOT MTN, PINTO MTN, PINTO WELLS, PLACER CANYON, PORCUPINE WASH, POSTON, PRADO DAM, QUEEN MTN, RABBIT PEAK, RANCHO MIRAGE, RED CANYON, RED CLOUD CANYON, REDLANDS, RICE, RIPLEY, RIVERSIDE EAST, RIVERSIDE WEST, ROCKHOUSE CANYON, ROMOLAND, ROOSEVELT MINE, SAGE, SALTON, SAN BERNARDINO SOUTH, SAN BERNARDINO WASH, SAN GORGONIO MTN, SAN JACINTO, SAN JACINTO PEAK, SANTIAGO PEAK, SEVEN PALMS VALLEY, SIDEWINDER WELL, SITTON PEAK, STEELE PEAK, STYX, SUNNYMEAD, TEMECULA, THERMAL CANYON, THUMB PK, TORO PEAK, TWENTYNINE PALMS MTN, VAIL LAKE, VALERIE, VICTORY PASS, VIDAL, WASHINGTON WASH, WEST BERDOO CANYON, WEST OF PALEN PASS, WHITE WATER, WILDOMAR, WILEY WELL, WINCHESTER, YUCAIPA, YUCCA VALLEY SOUTH
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	12/18/1988	EIC
Last modified:	8/16/2019	studenteic

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-01955

Identifiers

Report No.: RI-01955

Other IDs:

Type	*Name*
NADB-R	1082349
Voided	MF-2124

Cross-refs:

Citation information

Author(s): HELLER, ROD, TIM TETHEROW, and C. WHITE

Year: 1977 (Oct)

Title: AN OVERVIEW OF THE SUNDESERT NUCLEAR PROJECT TRANSMISSION SYSTEM CULTURAL RESOURCE INVESTIGATION

Affliliation: WIRTH ASSOCIATES

No. pages: 41

No. maps: 4

Attributes: Archaeological, Architectural/Historical, Literature search, Management/planning, Other research

Inventory size: Most of Riverside County, east of Elsinore, excluding Joshua Tree, evaluated.

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: Yes

Location information

County(ies): Riverside

USGS quad(s): AGUANGA, ANZA, AUGUSTINE PASS, AZTEC MINES, BACHELOR MTN, BEAUMONT, BEAUTY MOUNTAIN, BLACKBURN CANYON, BUCKSNORT MTN, BUTTERFLY PEAK, CABAZON, CAHUILLA MOUNTAIN, CATHEDRAL CITY, CHUCKWALLA SPRING, CLARK LAKE NE, COLLINS VALLEY, CORN SPRING, COTTONWOOD BASIN, COTTONWOOD SPRING, DESERT CENTER, DESERT HOT SPRINGS, DURMID, EAST DECEPTION CANYON, EAST OF AZTEC MINES, EAST OF RED CANYON, EAST OF VICTORY PASS, EL CASCO, FALLBROOK, FORD DRY LAKE, FRINK NE, FRINK NW, HAYFIELD, HAYFIELD SPRING, HEMET, HOPKINS WELL, IDYLLWILD, INDIO, IRIS PASS, KEYS VIEW, LA QUINTA, LAKE ELSINORE, LAKE FULMOR, LAKEVIEW, LITTLE CHUCKWALLA MOUNTAINS, MARTINEZ MOUNTAIN, MCCOY PK, MCCOY SPRING, MECCA, MORTMAR, MURRIETA, MYOMA, OASIS, OROCOPIA CANYON, PALEN LAKE, PALEN MOUNTAINS, PALM SPRINGS, PALM VIEW PEAK, PALO VERDE, PECHANGA, PERRIS, PILOT MTN, RABBIT PEAK, RANCHO MIRAGE, RED CANYON, RED CLOUD CANYON, RIPLEY, RIVERSIDE EAST, ROCKHOUSE CANYON, ROMOLAND, ROOSEVELT MINE, SAGE, SALTON, SAN JACINTO, SAN JACINTO PEAK, SEVEN PALMS VALLEY, SIDEWINDER WELL, STEELE PEAK, SUNNYMEAD, TEMECULA, THERMAL CANYON, THUMB PK, TORO PEAK, VAIL LAKE, VALERIE, VICTORY PASS, WEST BERDOO CANYON, WHITE WATER, WILDOMAR, WILEY WELL, WINCHESTER

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	5/25/1989	EIC
Last modified:	6/14/2019	studenteic

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
4/23/2018	studenteic	Attributes corrected and number added to corresponding base maps by Mike Amorelli

Record status:

Report Detail: RI-02050

Identifiers

Report No.: RI-02050

Other IDs:

Type	*Name*
NADB-R	1082479
Voided	MF-2244
Other	DAC05-85-0033

Cross-refs:

Citation information

Author(s): PERAULT, GORDON
Year: 1985 (Sep)
Title: PRELIMINARY HISTORIC INVENTORY - MARCH AIR FORCE BASE, CALIFORNIA
Affliliation: FIELDS AND SILVERMAN ARCHITECTS
No. pages: 132
No. maps:
Attributes: Archaeological, Field study
Inventory size: 640 Acres surveyed
Disclosure:
Collections:

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): Riverside
USGS quad(s): PERRIS, RIVERSIDE EAST, STEELE PEAK, SUNNYMEAD
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	6/5/1989	EIC
Last modified:	11/16/2018	studenteic

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-03190

Identifiers

Report No.: RI-03190

Other IDs:

Type	*Name*
NADB-R	1083752
Voided	MF-3408
Other	89-90

Cross-refs:

Citation information

Author(s): PEAK AND ASSOCIATES

Year: 1990

Title: PART III, ADDENDUM TO: CULTURAL RESOURCES ASSESSMENT OF AT&T'S PROPOSED SAN BERNARDINO TO SAN DIEGO FIBER OPTIC CABLE, SAN BERNARDINO, RIVERSIDE, AND SAN DIEGO COUNTIES, CALIFORNIA

Affliliation: PEAK AND ASSOCIATES

No. pages: 15

No. maps:

Attributes: Archaeological, Field study

Inventory size: 129 Acres surveyed

Disclosure:

Collections:

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-000805	CA-RIV-000805	
P-33-001017	CA-RIV-001017	
P-33-001057	CA-RIV-001057	
P-33-001183	CA-RIV-001183	
P-33-002013	CA-RIV-002013	
P-33-002696	CA-RIV-002696	
P-33-002701	CA-RIV-002701	
P-33-002711	CA-RIV-002711	
P-33-002725	CA-RIV-002725	

No. resources: 9

Has informals:

Location information

County(ies): Riverside

USGS quad(s): PERRIS, RIVERSIDE EAST, STEELE PEAK

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	5/1/1991	EIC
Last modified:	10/7/2004	EIC

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-03383

Identifiers

Report No.: RI-03383

Other IDs:

Type	*Name*
NADB-R	1084072
Voided	MF-3622

Cross-refs:

Citation information

Author(s): PADON, BETH

Year: 1991

Title: HISTORIC PROPERTY CLEARANCE REPORT FOR THE PROPOSED ACQUISITION OF TWO PARCELS IN SOUTHEAST AND SOUTHWEST QUADRANTS OF ROUTE 60/91/215 INTERCHANGE. SUPPLEMENT TO OCTOBER 11, 1991, HISTORIC PROPERTY CLEARANCE REPORT.

Affliliation: LSA ASSOCIATES, INC.

No. pages: 36

No. maps:

Attributes: Archaeological, Field study

Inventory size: 6 Acres surveyed

Disclosure:

Collections:

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-004495	CA-RIV-004495	
P-33-004496	CA-RIV-004496	

No. resources: 2

Has informals:

Location information

County(ies): Riverside

USGS quad(s): RIVERSIDE EAST

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	2/21/1992	EIC
Last modified:	10/7/2004	EIC

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-03604

Identifiers

Report No.: RI-03604

Other IDs:	*Type*	*Name*
	NADB-R	1084327
	Voided	MF-3878

Cross-refs:

Citation information

Author(s): Carleton S. Jones

Year: 1992 (May)

Title: The Development of Cultural Complexity Among the Luiseno: A Thesis Presented to the Department of Anthropology, California State University, Long Beach in Partial Fulfillment of the Requirements for the Degree, Master of Arts

Affliliation: California State University, Long Beach

No. pages: 144

No. maps: 2

Attributes: Archaeological, Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): Riverside

USGS quad(s): AGUANGA, ALBERHILL, BACHELOR MTN, BLACK STAR CANYON, CANADA GOBERNADORA, CORONA NORTH, CORONA SOUTH, FALLBROOK, HEMET, LAKE ELSINORE, LAKE MATHEWS, LAKEVIEW, MURRIETA, PECHANGA, PERRIS, PRADO DAM, RIVERSIDE EAST, RIVERSIDE WEST, ROMOLAND, SAGE, SANTIAGO PEAK, SITTON PEAK, STEELE PEAK, SUNNYMEAD, TEMECULA, VAIL LAKE, WILDOMAR, WINCHESTER

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	2/26/1993	EIC
Last modified:	5/8/2018	studenteic

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
	7/26/2007	chris	Edited page numbers M.R
	5/8/2018	studenteic	Attributes corrected by Mike Amorelli

Record status:

Report Detail: RI-03605

Identifiers

Report No.: RI-03605

Other IDs:

Type	*Name*
NADB-R	1084329
Voided	MF-3879

Cross-refs:

Citation information

Author(s): WLODARSKI, ROBERT J.

Year: 1993

Title: DRAFT REPORT: AN ARCHAEOLOGICAL SURVEY REPORT DOCUMENTING THE EFFECTS OF THE RCIC I-215 IMPROVEMENT PROJECT IN MORENO VALLEY, RIVERSIDE COUNTY, TO ORANGE SHOW ROAD IN THE CITY OF SAN BERNARDINO, SAN BERNARDINO COUNTY, CALIFORNIA.

Affliliation: HISTORICAL, ENVIRONMENTAL, ARCHAEOLOGICAL RESEARCH TEAM, Calabasas, CA

No. pages: 117

No. maps:

Attributes: Archaeological, Field study

Inventory size: ca. 11.5 Miles x 10 Meters surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-003815	CA-RIV-003815	
P-33-004299	CA-RIV-004299	
P-33-004495	CA-RIV-004495	
P-33-004496	CA-RIV-004496	
P-33-004768	CA-RIV-004768	
P-33-004787	CA-RIV-004787	
P-33-004791	CA-RIV-004791	

No. resources: 7

Has informals:

Location information

County(ies): Riverside

USGS quad(s): CORONA SOUTH, FONTANA, RIVERSIDE EAST, RIVERSIDE WEST, SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	2/26/1993	EIC
Last modified:	2/27/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
10/5/2007	eickw	ELB, Report updated
11/19/2007	chris	DM - updated record
8/4/2009	eickw	kw--updated info

Record status:

Report Detail: RI-03693

Identifiers

Report No.: RI-03693

Other IDs:

Type	*Name*
NADB-R	1084465
Voided	MF-3996

Cross-refs:

Citation information

Author(s): FOSTER, JOHN M., JAMES J. SCHMIDT, CARMEN A. WEBER, GWENDOLYN R. ROMANI, and ROBERTA S. GREENWOOD

Year: 1991

Title: CULTURAL RESOURCE INVESTIGATION: INLAND FEEDER PROJECT, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Affliliation: GREENWOOD & ASSOCIATES

No. pages: 204

No. maps:

Attributes: Archaeological, Field study

Inventory size: 951 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-000021	CA-RIV-000021	
P-33-000024	CA-RIV-000024	
P-33-000399	CA-RIV-000399	
P-33-000608	CA-RIV-000608	
P-33-001017	CA-RIV-001017	
P-33-001697	CA-RIV-001697	
P-33-002504	CA-RIV-002504	
P-33-002505	CA-RIV-002505	
P-33-002951	CA-RIV-002951	
P-33-003098	CA-RIV-003098	

No. resources: 10

Has informals:

Location information

County(ies): Riverside

USGS quad(s): EL CASCO, LAKEVIEW, PERRIS, REDLANDS, RIVERSIDE EAST, SAN BERNARDINO SOUTH, SUNNYMEAD

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	4/5/1994	EIC
Last modified:	3/3/2008	David

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
9/11/2007	eickw	ELB, Report updated
3/3/2008	David	updated report

Record status:

Report Detail: RI-04228

Identifiers

Report No.: RI-04228

Other IDs:	*Type*	*Name*
	NADB-R	1085434
	Voided	MF-4699
	Submitter	CRM TECH Contract #370

Cross-refs:

Citation information

Author(s): LOVE, BRUCE and BAI "TOM" TANG

Year: 1999

Title: CULTURAL RESOURCES REPORT: TENTATIVE TRACT 29219, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA.

Affliliation: CRM TECH, Riverside, CA

No. pages: 27

No. maps:

Attributes: Archaeological, Field study

Inventory size: 10 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

	Primary No.	*Trinomial*	*Name*
	P-33-005712		

No. resources: 1

Has informals:

Location information

County(ies): Riverside

USGS quad(s): SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	8/22/2000	EIC
Last modified:	8/4/2009	eickw

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
	8/3/2007	chris	ELB, Report info updated
	8/4/2009	eickw	kw--updated info

Record status:

Report Detail: RI-04404

Identifiers

Report No.: RI-04404

Other IDs:

Type	*Name*
NADB-R	1085736
Voided	MF-4913

Cross-refs:

Citation information

Author(s): JONES AND STOKES ASSOCIATES, INC.

Year: 2000 (Aug)

Title: FINAL CULTURAL RESOURCES INVENTORY REPORT FOR THE WILLIAMS COMMUNICATIONS, INC., FIBER OPTIC CABLE SYSTEM INSTALLATION PROJECT, RIVERSIDE TO SAN DIEGO, CALIFORNIA VOL I-IV.

Affliliation: JONES AND STOKES ASSOCIATES, INC.

No. pages: 189

No. maps: 98

Attributes: Archaeological, Field study, Literature search

Inventory size: 12 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-000816	CA-RIV-000816	
P-33-000817	CA-RIV-000817	
P-33-000862	CA-RIV-000862	
P-33-001845	CA-RIV-001845	
P-33-002970	CA-RIV-002970	
P-33-003081	CA-RIV-003081	
P-33-003839	CA-RIV-003839	
P-33-004202	CA-RIV-004202	
P-33-004624	CA-RIV-004624	
P-33-004744	CA-RIV-004744	
P-33-004768	CA-RIV-004768	
P-33-007587		
P-33-007601		Perris Depot
P-33-008105	CA-RIV-006019	
P-33-008172	CA-RIV-006069	
P-33-009772		
P-33-009773	CA-RIV-006503H	
P-33-009774		
P-33-009775	CA-RIV-006504	
P-33-009776	CA-RIV-005667H	

No. resources: 20

Has informals: No

Location information

County(ies): Riverside

USGS quad(s): BACHELOR MTN, FONTANA, LAKE MATHEWS, LAKEVIEW, MURRIETA, PECHANGA, PERRIS, RIVERSIDE EAST, RIVERSIDE WEST, ROMOLAND, SAN JACINTO, STEELE PEAK, TEMECULA, WINCHESTER

Address:

PLSS:

Report Detail: RI-04404

Database record metadata

	Date	User	
Entered:	12/18/2000	EIC	
Last modified:	5/14/2018	studenteic	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
	8/3/2007	chris	ELB, Report info updated
	5/14/2018	studenteic	Attributes corrected and PDF edited by Mike Amorelli
Record status:			

Report Detail: RI-04430

Identifiers

Report No.: RI-04430

Other IDs:

Type	*Name*
NADB-R	1085778
Voided	MF-4939

Cross-refs:

Citation information

Author(s): JONES AND STOKES ASSOCIATES, INC.

Year: 2000 (Jun)

Title: CULTURAL RESOURCES INVENTORY REPORT FOR WILLIAMS COMMUNICATIONS, INC. FIBER OPTIC CABLE SYSTEM INSTALLATION PROJECT, RIVERSIDE, CA TO THE CA/AZ BORDER, RIVERSIDE, SAN BERNARDINO, & IMPERIAL COUNTIES, CA, VOL I-III

Affliliation: JONES AND STOKES ASSOCIATES, INC.

No. pages: 359

No. maps:

Attributes: Archaeological, Field study

Inventory size: 25 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-000809	CA-RIV-000809	
P-33-002262	CA-RIV-002262	
P-33-003438	CA-RIV-003438	
P-33-003439	CA-RIV-003439	
P-33-003440	CA-RIV-003440	
P-33-003442	CA-RIV-003442	
P-33-003946	CA-RIV-003946	
P-33-009498	CA-RIV-006381	
P-33-009499	CA-RIV-006382	
P-33-009500	CA-RIV-006383	

No. resources: 10

Has informals:

Location information

County(ies): Riverside

USGS quad(s): BEAUMONT, CABAZON, CATHEDRAL CITY, DESERT HOT SPRINGS, DURMID, EL CASCO, INDIO, LA QUINTA, MECCA, MORTMAR, MYOMA, PALM SPRINGS, REDLANDS, RIVERSIDE EAST, SALTON, SAN BERNARDINO SOUTH, SUNNYMEAD, THERMAL CANYON, WHITE WATER

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	9/11/2002	EIC
Last modified:	12/15/2017	studenteic

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
8/2/2007	chris	ELB, Report info updated
2/4/2008	rachel	updated # of pgs

Record status:

Report Detail: RI-04431

Identifiers

Report No.: RI-04431

Other IDs:	*Type*	*Name*
	NADB-R	1085779
	Voided	MF-4940

Cross-refs:

Citation information

Author(s): JONES AND STOKES ASSOCIATES, INC.

Year: 1999

Title: CULTURAL RESOURCES INVENTORY REPORT FOR WILLIAMS COMMUNICATIONS, INC. PROPOSED FIBER OPTIC CABLE SYSTEM INSTALLATION PROJECT, LOS ANGELES TO RIVERSIDE, LOS ANGELES & RIVERSIDE COUNTIES, CA

Affliliation: JONES AND STOKES ASSOCIATES, INC., Sacramento, CA

No. pages: 379

No. maps:

Attributes: Archaeological, Field study

Inventory size: 2.25 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): Riverside

USGS quad(s): RIVERSIDE EAST, SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	9/11/2002	EIC
Last modified:	12/15/2017	studenteic

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
	8/2/2007	chris	ELB, Report info updated
	8/4/2009	eickw	kw--updated info

Record status:

Report Detail: RI-04762

Identifiers

Report No.: RI-04762

Other IDs:

Type	*Name*
NADB-R	1083854
Voided	MF-3495

Cross-refs: Extends into another county as MN-00167
Extends into another county as IN-00354

Citation information

Author(s): BARKER, LEO R. and ANN E. HUSTON, EDITORS

Year: 1990

Title: DEATH VALLEY TO DEADWOOD; KENNECOTT TO CRIPPLE CREEK. PROCEEDINGS OF THE HISTORIC MINING CONFERENCE, JANUARY 23-27, 1989, DEATH VALLEY NATIONAL MONUMENT

Affliliation: Division of National Register Programs National Park Service

No. pages: 223

No. maps:

Attributes: Management/planning

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): Riverside

USGS quad(s): AGUANGA, ALBERHILL, ANZA, ARICA MTNS, ARLINGTON MINE, AUGUSTINE PASS, AZTEC MINES, BACHELOR MTN, BEAUMONT, BEAUTY MOUNTAIN, BIG MARIA MTNS SE, BIG MARIA MTNS SW, BIG MARIA MTS NE, BIG MARIA MTS NW, BLACK STAR CANYON, BLACKBURN CANYON, BLYTHE, BLYTHE NE, BUCKSNORT MTN, BUTTERFLY PEAK, BUZZARD SPRING, CABAZON, CADIZ VALLEY SE, CADIZ VALLEY SW, CAHUILLA MOUNTAIN, CANADA GOBERNADORA, CATCLAW FLAT, CATHEDRAL CITY, CHUCKWALLA SPRING, CLARK LAKE NE, CLARKS PASS, COLLINS VALLEY, CONEJO WELL, CORN SPRING, CORONA NORTH, CORONA SOUTH, COTTONWOOD BASIN, COTTONWOOD SPRING, COXCOMB MTS, DESERT CENTER, DESERT HOT SPRINGS, DURMID, EAST DECEPTION CANYON, EAST OF AZTEC MINES, EAST OF GRANITE PASS, EAST OF RED CANYON, EAST OF VICTORY PASS, EL CASCO, FALLBROOK, FONTANA, FORD DRY LAKE, FOREST FALLS, FRIED LIVER WASH, FRINK NE, FRINK NW, GRANITE PASS, GROMMET, GUASTI, HAYFIELD, HAYFIELD SPRING, HEMET, HOPKINS WELL, HUMBUG MTN, IDYLLWILD, INCA, INDIAN COVE, INDIO, IRIS PASS, JOSHUA TREE SOUTH, KEYS VIEW, LA PAZ MTN, LA QUINTA, LAKE ELSINORE, LAKE FULMOR, LAKE MATHEWS, LAKEVIEW, LITTLE CHUCKWALLA MOUNTAINS, LITTLE MARIA MTNS, MALAPAI HILL, MARTINEZ MOUNTAIN, MCCOY PK, MCCOY SPRING, MCCOY WASH, MECCA, MORONGO VALLEY, MORTMAR, MULE WASH, MURRIETA, MYOMA, NEW DALE, OASIS, OROCOPIA CANYON, PALEN LAKE, PALEN MOUNTAINS, PALEN PASS, PALM SPRINGS, PALM VIEW PEAK, PALO VERDE, PARKER SW, PECHANGA, PERRIS, PILOT MTN, PINTO MTN, PINTO WELLS, PLACER CANYON, PORCUPINE WASH, POSTON, PRADO DAM, QUEEN MTN, RABBIT PEAK, RANCHO MIRAGE, RED CANYON, RED CLOUD CANYON, REDLANDS, RICE, RIPLEY, RIVERSIDE EAST, RIVERSIDE WEST, ROCKHOUSE CANYON, ROMOLAND, ROOSEVELT MINE, SAGE, SALTON, SAN BERNARDINO SOUTH, SAN BERNARDINO WASH, SAN GORGONIO MTN, SAN JACINTO, SAN JACINTO PEAK, SANTIAGO PEAK, SEVEN PALMS VALLEY, SIDEWINDER WELL, SITTON PEAK, STEELE PEAK, STYX, SUNNYMEAD, TEMECULA, THERMAL CANYON, THUMB PK, TORO PEAK, TWENTYNINE PALMS MTN, VAIL LAKE, VALERIE, VICTORY PASS, VIDAL, WASHINGTON WASH, WEST BERDOO CANYON, WEST OF PALEN PASS, WHITE WATER, WILDOMAR, WILEY WELL, WINCHESTER, YUCAIPA, YUCCA VALLEY SOUTH

Address:

PLSS:

Report Detail: RI-04762

Database record metadata

	Date	User	
Entered:	7/16/1991	EIC	
Last modified:	1/12/2018	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
Record status:			

Report Detail: RI-04813

Identifiers

Report No.: RI-04813

Other IDs:

Type	*Name*
NADB-R	1086175
Other	118, 119, 120, 121, 122, 123

Cross-refs:

Citation information

Author(s): NATIONAL PARK SERVICE, HAER

Year: 1993 (Nov)

Title: 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

Affliliation: NATIONAL PARK SERVICE, HISTORIC AMERICAN ENGINEERING RECORD

No. pages: 307

No. maps:

Attributes: Architectural/historical, Other research

Inventory size:

Disclosure: Unrestricted

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-003361	CA-RIV-003361/H	
P-33-004768	CA-RIV-004768	
P-33-009772		

No. resources: 3

Has informals:

Location information

County(ies): Riverside

USGS quad(s): CORONA NORTH, CORONA SOUTH, FONTANA, GUASTI, LAKE MATHEWS, PERRIS, REDLANDS, RIVERSIDE EAST, RIVERSIDE WEST, SAN BERNARDINO SOUTH, STEELE PEAK, SUNNYMEAD

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	5/26/2005	EIC
Last modified:	4/3/2018	studenteic

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
10/13/2008	rachel	Corrected report type.

Record status:

Report Detail: RI-05056

Identifiers

Report No.: RI-05056

Other IDs:

Type	*Name*
NADB-R	1086418
Submitter	01-02-03-708

Cross-refs:

Citation information

Author(s): MCKENNA ET AL.

Year: 2003

Title: A PHASE I CULTURAL RESOURCES INVESTIGATION FOR THE PROPOSED CORONA FEEDER MASTER PLAN PROJECT AREA, RIVERSIDE COUNTY, CALIFORNIA

Affliliation: MCKENNA ET AL

No. pages: 176

No. maps:

Attributes: Archaeological, Field study

Inventory size: 31.1 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-003832	CA-RIV-003832	
P-33-004768	CA-RIV-004768	
P-33-004791	CA-RIV-004791	
P-33-009774		

No. resources: 4

Has informals:

Location information

County(ies): Riverside

USGS quad(s): CORONA NORTH, CORONA SOUTH, RIVERSIDE EAST, RIVERSIDE WEST, SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	12/14/2005	EIC
Last modified:	8/29/2007	CHRIS

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
8/29/2007	CHRIS	M.R/ Updated Information

Record status:

Report Detail: RI-05088

Identifiers

Report No.: RI-05088

Other IDs:

Type	*Name*
NADB-R	1086450

Cross-refs:

Citation information

Author(s): CULTURAL SYSTEMS RESEARCH, INC.
Year: 2005 (Sep)
Title: ETHNOGRAPHIC OVERVIEW INLAND FEEDER PIPELINE PROJECT
Affliliation: CULTURAL SYSTEMS RESEARCH, INC.
No. pages: 86
No. maps:
Attributes:
Inventory size:
Disclosure: Not for publication
Collections:

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-001162	CA-RIV-001162	
P-33-004624	CA-RIV-004624	
P-33-004627	CA-RIV-004627	
P-33-004628	CA-RIV-004628	
P-33-004930	CA-RIV-004930	

No. resources: 5
Has informals:

Location information

County(ies): Riverside
USGS quad(s): BEAUMONT, EL CASCO, FOREST FALLS, HEMET, LAKEVIEW, PERRIS, REDLANDS, RIVERSIDE EAST, ROMOLAND, SAN BERNARDINO SOUTH, SAN JACINTO, STEELE PEAK, SUNNYMEAD, WINCHESTER, YUCAIPA
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	1/9/2006	EIC
Last modified:	8/12/2019	studenteic

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-05719

Identifiers

Report No.: RI-05719

Other IDs:	*Type*	*Name*
	NADB-R	1087082
	Submitter	CA-8547A

Cross-refs:

Citation information

Author(s): Heinz Lumpp

Year: 2003 (May)

Title: Letter Report: Proposed Cellular Tower Project in Riverside County, California, Site Name/Number: Ca-8547A/ Hunter Park

Affliliation: EarthTouch, Inc.

No. pages: 14

No. maps: 1

Attributes: Literature search

Inventory size:

Disclosure: Unrestricted

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): Riverside

USGS quad(s): SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	5/25/2006	EIC
Last modified:	2/6/2018	studenteic

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-05748

Identifiers

Report No.: RI-05748

Other IDs:

Type	*Name*
NADB-R	1087111
Submitter	994

Cross-refs:

Citation information

Author(s): DOAN, UYEN K., MICHAEL HOGAN, and BAI TANG

Year: 2003

Title: ARCHAEOLOGICAL SENSITIVITY ASSESSMENT: HUNTER PARK REDEVELOPMENT PLAN AMENDMENT, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

Affliliation: CRM TECH

No. pages: 31

No. maps:

Attributes: Archaeological, Field study

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-001984	CA-RIV-001984	
P-33-004495	CA-RIV-004495	
P-33-004791	CA-RIV-004791	
P-33-008752	CA-RIV-006237/H	
P-33-009006	CA-RIV-006351H	
P-33-010902	CA-RIV-006595H	

No. resources: 6

Has informals:

Location information

County(ies): Riverside

USGS quad(s): FONTANA, RIVERSIDE EAST, SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	6/13/2006	EIC
Last modified:	8/23/2007	chris

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
8/23/2007	chris	M.R/ Updated Information

Record status:

Report Detail: RI-05993

Identifiers

Report No.: RI-05993

Other IDs:

Type	*Name*
NADB-R	1087356
Submitter	1052

Cross-refs:

Citation information

Author(s): TIBBET, CASEY and JOSH SMALLWOOD

Year: 2003

Title: HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 30907, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA

Affliliation: CRM TECH

No. pages: 23

No. maps:

Attributes: Archaeological, Field study

Inventory size: 16.9 Acres surveyed

Disclosure: Unrestricted

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-013078		

No. resources: 1

Has informals:

Location information

County(ies): Riverside

USGS quad(s): RIVERSIDE EAST

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	9/13/2006	EIC
Last modified:	9/6/2007	CHRIS

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
9/6/2007	CHRIS	M.R/ Updated Information

Record status:

Report Detail: RI-05998

Identifiers

Report No.: RI-05998

Other IDs:

Type	*Name*
NADB-R	1087361
Submitter	1187

Cross-refs:

Citation information

Author(s): TANG, BAI, MICHAEL HOGAN, CASEY TIBBET, and JOSH SMALLWOOD

Year: 2003

Title: HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NUMBER 210-110-030, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA

Affliliation: CRM TECH

No. pages: 24

No. maps:

Attributes: Archaeological, Field study

Inventory size: 4.6 Acres surveyed

Disclosure: Unrestricted

Collections: No

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): Riverside

USGS quad(s): RIVERSIDE EAST

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	9/13/2006	EIC
Last modified:	9/6/2007	CHRIS

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Imported records from NADB.
9/6/2007	CHRIS	M.R/ Updated Information

Record status:

Report Detail: RI-06001

Identifiers

Report No.: RI-06001

Other IDs:	*Type*	*Name*
	NADB-R	1087364
	Submitter	1186

Cross-refs:

Citation information

Author(s): TANG, BAI, MICHAEL HOGAN, CASEY TIBBET, and JOSH SMALLWOOD

Year: 2003

Title: HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NUMBER 210-080-043, 1793 CHICAGO AVENUE, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA

Affliliation: CRM TECH

No. pages: 27

No. maps:

Attributes: Archaeological, Evaluation, Field study

Inventory size: 5.95 Acres surveyed

Disclosure: Unrestricted

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-013535		

No. resources: 1

Has informals:

Location information

County(ies): Riverside

USGS quad(s): RIVERSIDE EAST

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	9/13/2006	EIC
Last modified:	9/6/2007	CHRIS

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
	9/6/2007	CHRIS	M.R/ Updated Information

Record status:

Report Detail: RI-06088

Identifiers

Report No.: RI-06088

Other IDs:

Type	*Name*
NADB-R	1087451
Caltrans	08230-466900

Cross-refs:

Citation information

Author(s): BRICKER, DAVID

Year: 1998 (Sep)

Title: FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA

Affliliation: CALTRANS- DISTRICT 8

No. pages: 124

No. maps:

Attributes: Evaluation

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-33-004495	CA-RIV-004495	
P-33-009681		Riverside Arlington Heights Fueit
P-33-011517		Seventh Street Historic District
P-33-011521		Heritage Square Historic District
P-33-011523		
P-33-011537		
P-33-011539		
P-33-011561	CA-RIV-006889	
P-33-012149		
P-33-012150		
P-33-012151		
P-33-012152		
P-33-012153		
P-33-012154		
P-33-012155		
P-33-012156		
P-33-012157		
P-33-012158		
P-33-012159		
P-33-012160		
P-33-012162		
P-33-012163		
P-33-012164		
P-33-012165		
P-33-012166		
P-33-012167		
P-33-012168		
P-33-012169		
P-33-012170		
P-33-012171		

No. resources: 30

Has informals:

Report Detail: RI-06088

Location information

County(ies): Riverside
USGS quad(s): RIVERSIDE EAST, SAN BERNARDINO SOUTH
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	10/5/2006	EIC
Last modified:	4/3/2018	studenteic

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.

Record status:

Report Detail: RI-06148

Identifiers

Report No.: RI-06148

Other IDs:	*Type*	*Name*
	NADB-R	1087511

Cross-refs:

Citation information

Author(s): AISLIN-KAY, MARNIE and CHRISTEEN TANIGUCHI

Year: 2004

Title: LETTER REPORT: RECORDS SEARCH AND SITE VISIT RESULTS FOR SPRINT TELECOMMUNICATIONS FACILITY CANDIDATE RV60XC824A (MANCILLA PROPERTY) 1361 DODSON WAY, RIVERSIDE, RIVERSIDE COUNTY, CA

Affliliation: MICHAEL BRANDMAN ASSOCIATES

No. pages: 11

No. maps:

Attributes: Archaeological, Field study

Inventory size: ca. 1 Acres surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): Riverside

USGS quad(s): RIVERSIDE EAST

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	10/12/2006	EIC
Last modified:	11/19/2007	eickw

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Imported records from NADB.
	11/19/2007	eickw	M.R/ Updated Information

Record status:

Report Detail: RI-07235

Identifiers

Report No.: RI-07235
Other IDs:
Cross-refs:

Citation information

Author(s): Caprice D. harper
Year: 2003
Title: Cultural Resource Assessment for Cingular Wireless Facility No. LA S08-01 in Riverside County, California
Affliliation: LSA Associates, Inc,
No. pages: 10
No. maps:
Attributes: Literature search
Inventory size: 0.25 Acres surveyed
Disclosure: Unrestricted
Collections: No

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): Riverside
USGS quad(s): RIVERSIDE EAST
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	8/23/2007	chris
Last modified:	8/23/2007	chris

IC actions:
Record status:

Report Detail: RI-07322

Identifiers

Report No.: RI-07322
Other IDs:
Cross-refs:

Citation information

Author(s): Bonner, Wayne and Aislin-Kay, Marnie
Year: 2006
Title: Cultural Resource Records Search and Site Visit Results for T-Mobile Telecommunications Facility Candidate IE24032C (Essex Commercial Center), 1855 Iowa Avenue, Riverside, Riverside County, California.
Affliliation: Michael Brandman Associates
No. pages: 16
No. maps:
Attributes: Archaeological, Field study, Literature search
Inventory size: 0.25 Acres surveyed
Disclosure: Unrestricted
Collections: No

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): Riverside
USGS quad(s): RIVERSIDE EAST
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	9/20/2007	eickw
Last modified:	9/20/2007	eickw

IC actions:
Record status:

Report Detail: RI-07352

Identifiers

Report No.: RI-07352
Other IDs:
Cross-refs:

Citation information

Author(s): Tibbet, Casey, Austerman Gini, and Bell, Bill
Year: 2007
Title: Cultural Resources Assessment: Columbia Avenue/Iowa Avenue Roadway Improvements City of Riverside, Riverside County, California
Affliliation: LSA Associates, Inc
No. pages: 39
No. maps:
Attributes: Archaeological, Field study
Inventory size: 120 Feet x 110 Feet surveyed
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): Riverside
USGS quad(s): RIVERSIDE EAST, SAN BERNARDINO SOUTH
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	9/26/2007	eickw
Last modified:	9/26/2007	eickw

IC actions:
Record status:

Report Detail: RI-08441

Identifiers

Report No.: RI-08441

Other IDs:	*Type*	*Name*
	Submitter	Project Number: LA5312A

Cross-refs:

Citation information

Author(s): Carla Allred

Year: 2010 (May)

Title: Letter Report: Proposed Cellular Tower Project(s) in Riverside County, California, Site Number(s)/Name(s): LA-5312A/ ATT Colo La Cadena TCNS #62310

Affliliation: EarthTouch, Inc.

No. pages: 21

No. maps: 1

Attributes: Archaeological, Field study, Literature search

Inventory size: 15 Feet x 22 Feet surveyed

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): Riverside

USGS quad(s): SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	8/27/2010	Karen
Last modified:	2/8/2018	studenteic

IC actions:	*Date*	*User*	*Action taken*
	8/27/2010	Karen	Entered record into database.

Record status:

Report Detail: RI-09832

Identifiers

Report No.: RI-09832
Other IDs:
Cross-refs:

Citation information

Author(s): Carrie D Wills and Sarah A Williams
Year: 2015 (May)
Title: Cultural Resource Records Search Results for T-Mobile West, LLC Candidate '824716 Essex' , 1855 Iowa Avenue, Riverside, Riverside County, California
Affliliation: First Carbon Solutions
No. pages:
No. maps:
Attributes: Architectural/Historical, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): Riverside
USGS quad(s): RIVERSIDE EAST
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	8/16/2017	studenteic
Last modified:	8/16/2017	studenteic

IC actions:	*Date*	*User*	*Action taken*
	8/16/2017	studenteic	created and input data-lara

Record status:

Report Detail: RI-10030

Identifiers

Report No.: RI-10030

Other IDs:

Type	*Name*
IC Record Search Nbr	1944

Cross-refs:

Citation information

Author(s): ROGER D MASON and WAYNE H BONNER

Year: 1998 (Apr)

Title: CULTURAL RESOURCES RECORDS SEARCH AND LITERATURE REVIEW FOR A PACIFIC BELL MOBILE SERVICES TELECOMMUNICATIONS FACILITY: CM 046-08 CITY OF RIVERSIDE, CALIFORNIA

Affliliation: CHAMBERS GROUP, INC

No. pages:

No. maps:

Attributes: Literature search, Other research

Inventory size:

Disclosure:

Collections:

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): Riverside

USGS quad(s): SAN BERNARDINO SOUTH

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	12/19/2017	studentEIC
Last modified:	12/19/2017	studentEIC

IC actions:

Date	*User*	*Action taken*
12/19/2017	studentEIC	-LARA

Record status:

Report Detail: RI-10673

Identifiers

Report No.: RI-10673

Other IDs:	*Type*	*Name*
	Other	EBI Project No. 6115003217

Cross-refs:

Citation information

Author(s): Gabriel Ocampo
Year: 2015 (Aug)
Title: La Condena-La Cadena/ Ensite # 25677 (288215)
Affliliation: EBI Consulting
No. pages: 28
No. maps: 3
Attributes: Literature search, Management/planning
Inventory size: 0.02
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): Riverside
USGS quad(s): SAN BERNARDINO SOUTH
Address:
PLSS: T2S R5W

Database record metadata

	Date	*User*
Entered:	6/3/2019	studenteic
Last modified:	6/3/2019	studenteic

IC actions:	*Date*	*User*	*Action taken*
	6/3/2019	studenteic	Entered by Alejandra Sanchez

Record status:

Report Detail: RI-10691

Identifiers

Report No.: RI-10691
Other IDs:
Cross-refs:

Citation information

Author(s): Alan Curl
Year: 1979 (Jul)
Title: Phase I Survey of the City of Riverside Final Report
Affliliation: Riverside Municiple Museum
No. pages: 5
No. maps: 1
Attributes: Archaeological, Field study
Inventory size: NA
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: Yes

Location information

County(ies): Riverside
USGS quad(s): CORONA NORTH, FONTANA, RIVERSIDE EAST, RIVERSIDE WEST, SAN BERNARDINO SOUTH, STEELE PEAK

Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
NA	Riverside	NA	NA

PLSS:

Database record metadata

	Date	*User*
Entered:	6/25/2019	studenteic
Last modified:	6/25/2019	studenteic

IC actions:

Date	*User*	*Action taken*
6/25/2019	studenteic	Entered by Sabrina Fajardo

Record status:

Report Detail: RI-10710

Identifiers

Report No.: RI-10710

Other IDs:	*Type*	*Name*
	Other	Project No. 17-04494

Cross-refs:

Citation information

Author(s): Haas, H and B. Vargas
Year: 2017 (Oct)
Title: Phase I Cultural Study for the Northgate Center Project
Affliliation: Rincon Consultants, Inc.
No. pages: 63
No. maps: 1
Attributes: Archaeological, Field study, Literature search
Inventory size: 35 acres
Disclosure: Not for publication
Collections: No

General notes

Associated resources

	Primary No.	*Trinomial*	*Name*
	P-33-004299	CA-RIV-004299	

No. resources: 1
Has informals: No

Location information

County(ies): Riverside
USGS quad(s): RIVERSIDE EAST

Address:	*Address*	*City*	*Assessor's parcel no.*	*Zip code*
	n/a	n/a	n/a	n/a

PLSS: T2S R5W Sec. 13 SBBM

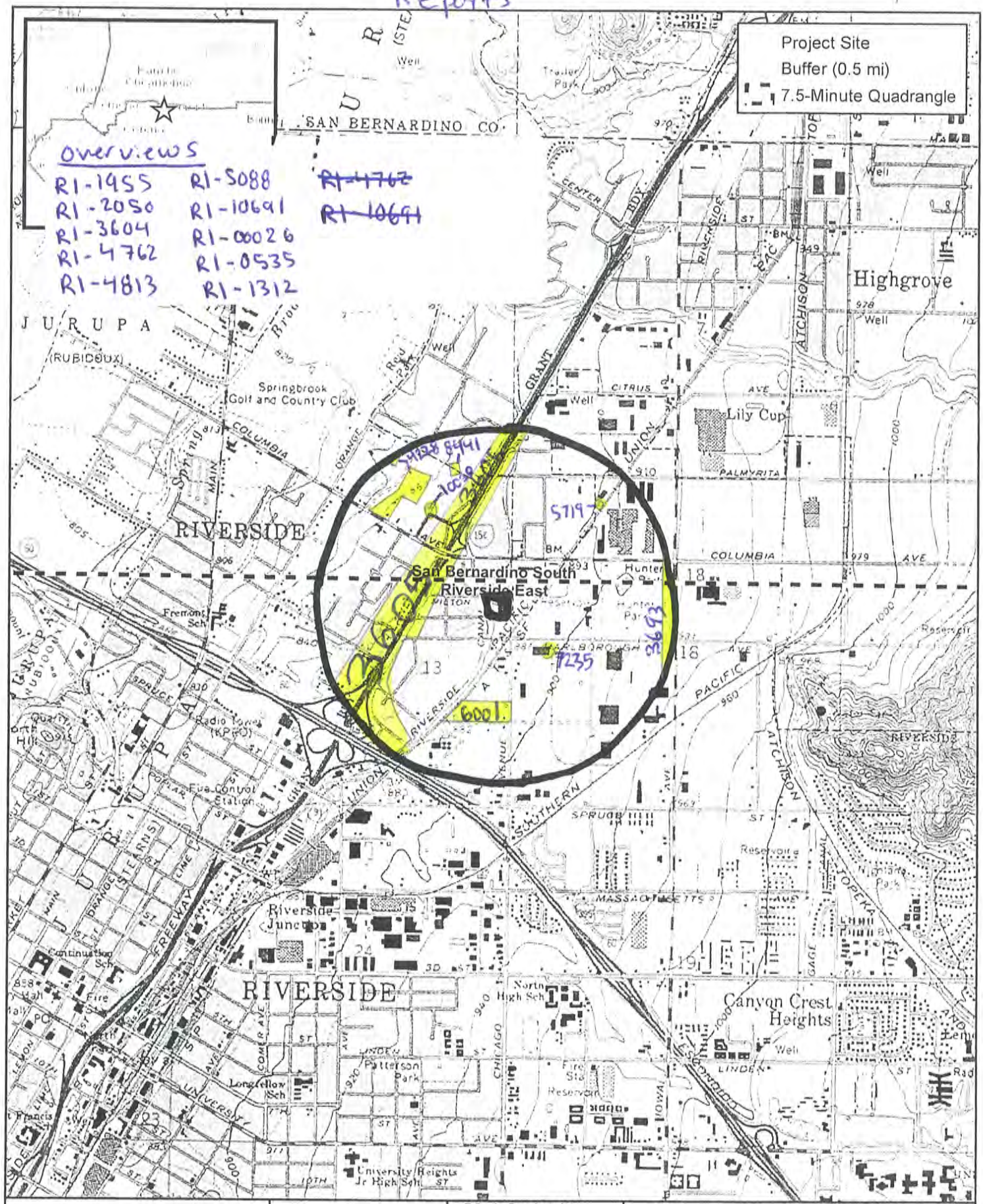
Database record metadata

	Date	*User*
Entered:	7/22/2019	studenteic
Last modified:	7/22/2019	studenteic

IC actions:	*Date*	*User*	*Action taken*
	7/22/2019	studenteic	Entered by Kimberly Lai

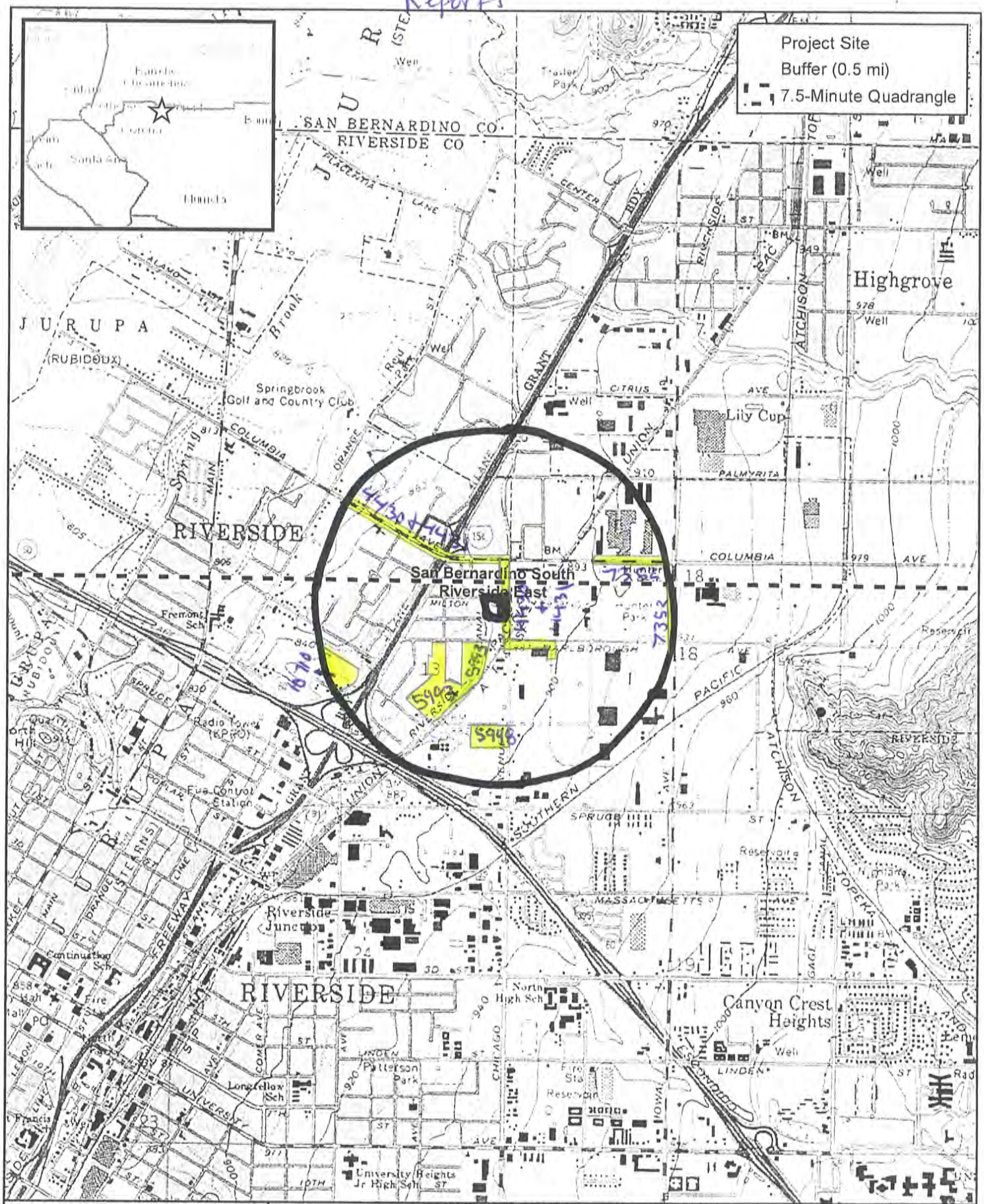
Record status:

Reports



Prepared By: Map Created: Aug 2019 VCS Environmental	0 500 1,000 1,500 2,000 Feet 1:24,000	7.5 min Quadrangle: Riverside East Township: T2S R5W Meridian: San Bernardino State: California County: Riverside	**Hunter Substation** USGS Basemap

Reports



Prepared By:

VCS Environmental

Map Created: Aug 2019

0 500 1,000 1,500 2,000 Feet

1:24,000

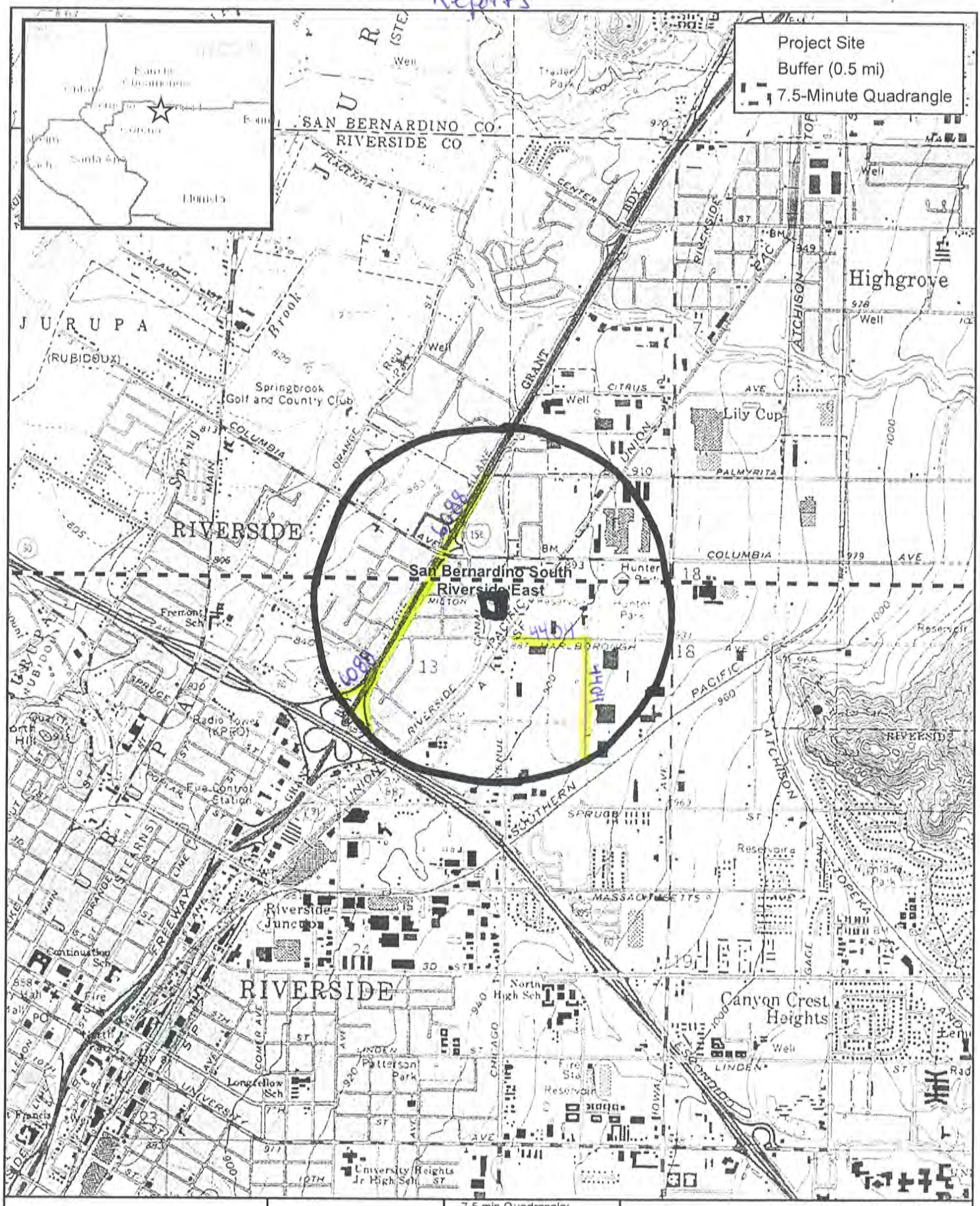
7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation

USGS Basemap

Reports



Prepared By:

VCS Environmental

Map Created: Aug 2019

0 500 1,000 1,500 2,000 Feet

1:24,000

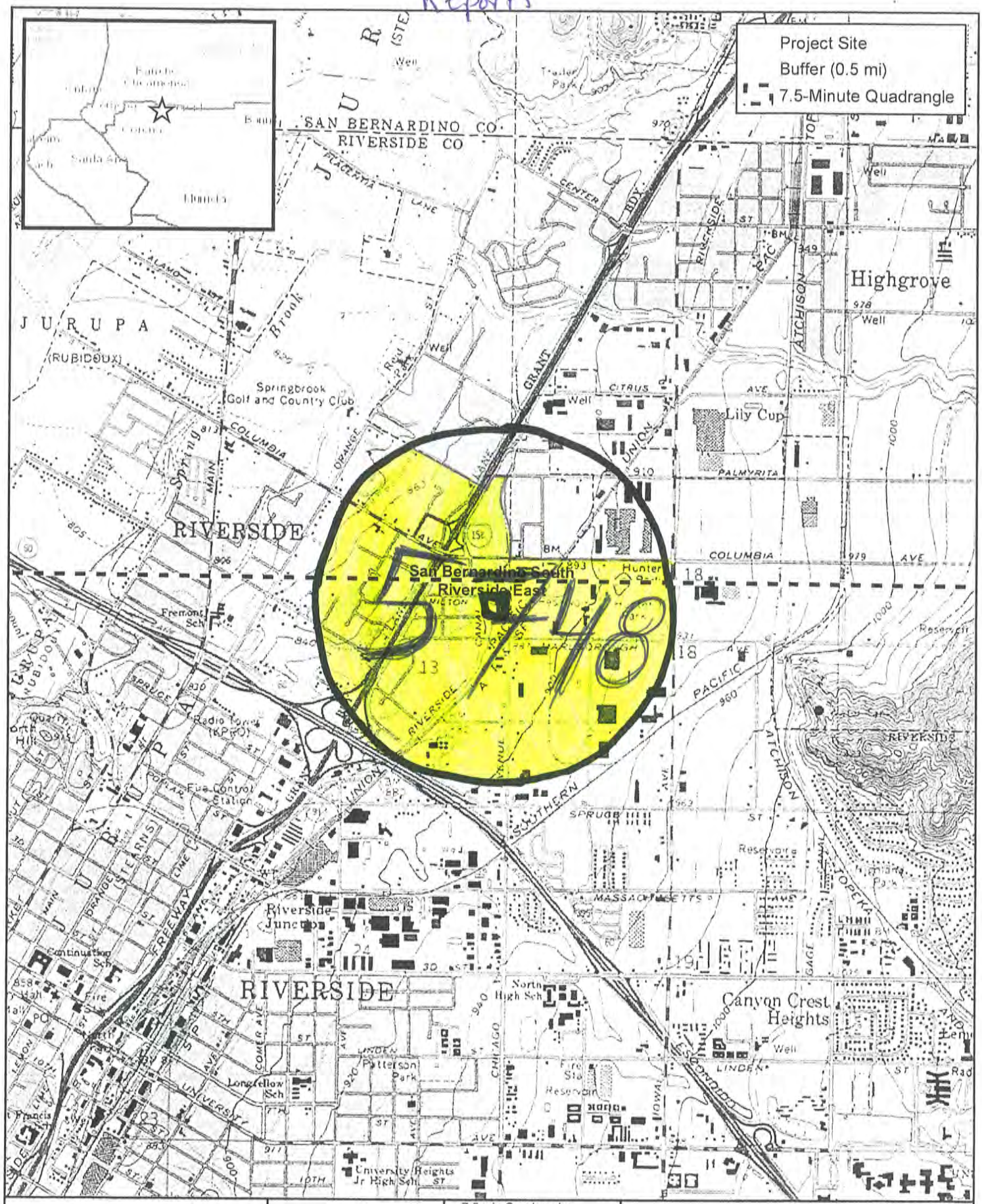
7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation

USGS Basemap

Reports



Prepared By:

VCS Environmental

Map Created: Aug 2019

0 500 1,000 1,500 2,000 Feet

1:24,000

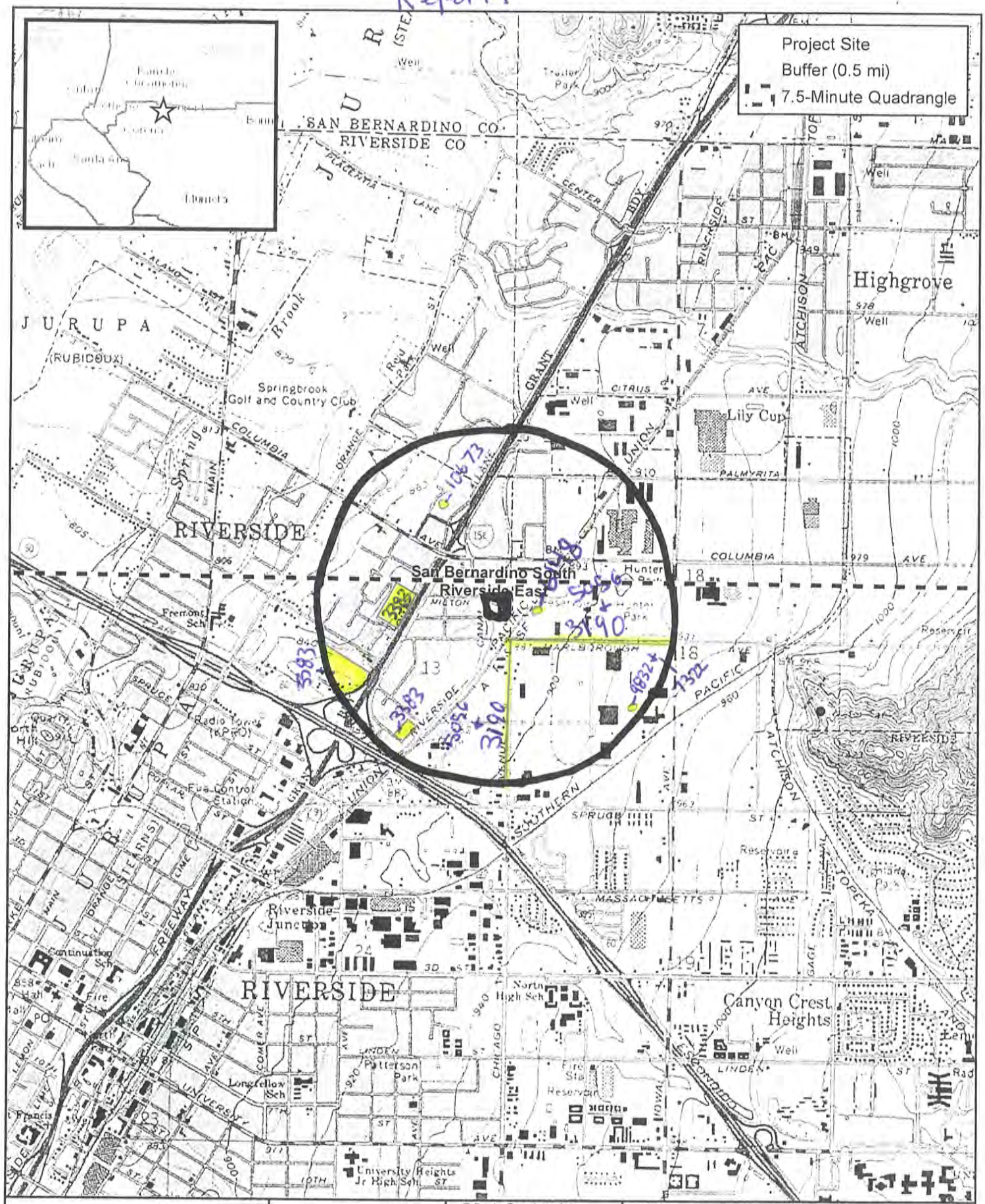
7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation

USGS Basemap

Reports



Prepared By:

VCS Environmental

Map Created: Aug 2019

0 500 1,000 1,500 2,000 Feet

1:24,000

7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation

USGS Basemap

Resource Detail: P-33-004495

Identifying information

Primary No.: P-33-004495
Trinomial: CA-RIV-004495
Name:
Other IDs:

Type	*Name*
Other	RCTC Parcel 5
Other	Riverside Upper Canal
Other	CRM TECH 2331
Other	Riverside Lower Canal

Cross-refs:

Attributes

Resource type: Structure
Age: Historic
Information base: Survey
Attribute codes: AH06 (Water conveyance system); HP20 (Canal/aqueduct)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
9/12/1991	Patricia Jertberg	LSA Associates	
6/4/1992	Robert Wlodarski & Dan Larson	Historical, Environmental, Archaeological, Reaserch, Team (HEART), Calabasas, CA.	
9/13/1996	Rick Starzak, Molly Fitzgerald	Myra L. Frank & Associates, Inc. Los Angeles, CA.	
8/1/801	Angie Gustafson, Mike McGrath	EDAW Inc., San Diego, CA.	
3/10/2009	Daniel Ballester	CRM TECH	
8/31/2016	Gini Austerman	LSA	
2/13/2003	Carrie Chasteen	Myra L. Frank & Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-03383	1991	HISTORIC PROPERTY CLEARANCE REPORT FOR THE PROPOSED ACQUISITION OF TWO PARCELS IN SOUTHEAST AND SOUTHWEST QUADRANTS OF ROUTE 60/91/215 INTERCHANGE. SUPPLEMENT TO OCTOBER 11, 1991, HISTORIC PROPERTY CLEARANCE REPORT.	LSA ASSOCIATES, INC.
RI-03605	1993	DRAFT REPORT: AN ARCHAEOLOGICAL SURVEY REPORT DOCUMENTING THE EFFECTS OF THE RCIC I-215 IMPROVEMENT PROJECT IN MORENO VALLEY, RIVERSIDE COUNTY, TO ORANGE SHOW ROAD IN THE CITY OF SAN BERNARDINO, SAN BERNARDINO COUNTY, CALIFORNIA.	HISTORICAL, ENVIRONMENTAL, ARCHAEOLOGICAL RESEARCH TEAM, Calabasas, CA
RI-04393	2000	A PHASE I CULTURAL RESOURCES ASSESSMENT OF MALBOROUGH TECH CENTER 5.60 ACRES OF LAND LOCATED IN THE CITY OF RIVERSIDE, RIVERSIDE	JEAN A. KELLER

		COUNTY, CALIFORNIA	
RI-04628	2001	ARCHAEOLOGICAL SURVEY OF VAN BUREN STATION LOCATED IN THE CITY AND COUNTY OF RIVERSIDE	CHAMBERS GROUP, INC.
RI-05748	2003	ARCHAEOLOGICAL SENSITIVITY ASSESSMENT: HUNTER PARK REDEVELOPMENT PLAN AMENDMENT, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH
RI-05754	2003	CULTURAL RESOURCES RECONNAISSANCE REPORT: ARLINGTON REDEVELOPMENT PROJECT AMENDMENT NO. 3, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8
RI-08247	2009	Identification and Evaluation of Historical Properties, Arlington Desalter System Expansion Project, City of Riverside County, California	CRM TECH, Colton, CA
RI-08548	2011	Tentative Tract Map No. 33248	CRM TECH
RI-10159	2017	Cultural Resources Assessment Hawthorne Elementary School Project Assessor's Parcel Number 233-180-007 & 233-170-001 City of Riverside Riverside County, California	LSA
RI-10652	2003	San Jacinto Branch Line Riverside County, California Determination of Eligibility and Effects Report	Myra L. Frank & Associates, Inc
RI-10675	2015	Cultural Resources Survey Electric / Ensite #26132 (273851) 466 East La Cadena Drive Riverside, Riverside County, California 92507 EBI Project No. 6115003838	EBI Consulting

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST, RIVERSIDE WEST, SAN BERNARDINO SOUTH
Address:
PLSS:
UTMs: Zone 11 467130mE 3761060mN NAD83

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	5/2/2019	studenteic	
IC actions:	*Date*	*User*	*Action taken*
	9/20/2010	Venessa	See also update.
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	7/15/2009	Andrew	Record and updates entered into the database
	2/12/2018	studenteic	Added Update
	5/2/2019	studenteic	Update entered by Kimberly Lai

Record status:

Resource Detail: P-33-004791

Identifying information

Primary No.: P-33-004791
Trinomial: CA-RIV-004791
Name:
Other IDs:

Type	*Name*
Other	Riverside Lower Canal
Other	P1074-115H
Other	MFA-4H
Other	P1074-116H
Other	MRC1101-H-1

Cross-refs:

Attributes

Resource type: Structure, Site
Age: Historic
Information base: Survey
Attribute codes: AH06 (Water conveyance system); HP20 (Canal/aqueduct)
Disclosure: Unrestricted
Collections: No
Accession no(s): N/A
Facility: N/A

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
1/1/2001	Angie Gustafson, Mike McGrath	EDAW, Inc	
7/1/2005	Jeanette A. McKenna, et. al	McKenna et. al.	
6/11/1992	Robert Wlodarski	Historical Enviromental Research Team	
6/4/2002	Evelyn N. Chandler, Valerie M. Van Henelryck	Chambers Group, Inc.	
6/9/2011	David Brunzell	BCR Consulting	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-03605	1993	DRAFT REPORT: AN ARCHAEOLOGICAL SURVEY REPORT DOCUMENTING THE EFFECTS OF THE RCIC I-215 IMPROVEMENT PROJECT IN MORENO VALLEY, RIVERSIDE COUNTY, TO ORANGE SHOW ROAD IN THE CITY OF SAN BERNARDINO, SAN BERNARDINO COUNTY, CALIFORNIA.	HISTORICAL, ENVIRONMENTAL, ARCHAEOLOGICAL RESEARCH TEAM, Calabasas, CA
RI-04486	2001	AN IDENTIFICATION INVESTIGATION OF HISTORICAL RESOURCES AND SOILS FOR THE CENTER STREET EXTENSION PROJECT, THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, THE CITY OF COLTON, SAN BERNARDINO COUNTY, CALIFORNIA	ARCHAEOLOGICAL CONSULTING SERVICES
RI-05036	2005	A PHASE I CULTURAL RESOURCES INVESTIGATION FOR THE PROPOSED ALVORD HIGH SCHOOL SITE AT THE FROST RESERVOIR ON INDIANA AVANUE IN THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.
RI-05056	2003	A PHASE I CULTURAL RESOURCES	MCKENNA ET AL

		INVESTIGATION FOR THE PROPOSED CORONA FEEDER MASTER PLAN PROJECT AREA, RIVERSIDE COUNTY, CALIFORNIA	
RI-05748	2003	ARCHAEOLOGICAL SENSITIVITY ASSESSMENT: HUNTER PARK REDEVELOPMENT PLAN AMENDMENT, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH
RI-05754	2003	CULTURAL RESOURCES RECONNAISSANCE REPORT: ARLINGTON REDEVELOPMENT PROJECT AMENDMENT NO. 3, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH
RI-05780	2002	ARCHAEOLOGICAL TESTING AND MITIGATION REPORT, CENTER STREET EXTENSION PROJECT, IN AND NEAR THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH
RI-06327	2004	HISTORICAL/ARCHAEOLOGICAL RESORUCES SURVEY REPORT, VAN BUREN BOULEVARD WIDENING PROJECT, ANDREW STREET TO GARFIELD AVENUE, ARLINGTON AREA, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH
RI-06894	2004	Historic Property Survey Report: For the, State Route 91/ Van Buren Boulevard Interchange Project, City of Riverside, Riverside County, California, 08-RIV-91-KP 21.9/23.3 (PM 13.6/14.5)	LSA Associates Inc.
RI-07925	2007	Cultural Resources Survey for the Tequesquite Arroyo Trunk Sewer Project, City of Riverside, Riverside County, California	SWCA Environmental Consultants
RI-07964	2008	A Phase I Archaeological Assessment for the Karger Property City of Riverside APN 135-280-041; Tentative Tract Map #34236	Brian F. Smith and Associates, Poway, CA
RI-08247	2009	Identification and Evaluation of Historical Properties, Arlington Desalter System Expansion Project, City of Riverside County, California	CRM TECH, Colton, CA
RI-10280	2011	CULTURAL RESOURCE ASSESSMENT RECLAIMED WATERLINES SECTION 106 PROJECT CITY OF CORONA RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES, INC.

Location information

County: Riverside

USGS quad(s): CORONA NORTH, CORONA SOUTH, RIVERSIDE EAST, RIVERSIDE WEST, SAN BERNARDINO SOUTH

Address:	*Address*	*City*	*Assessor's parcel no.*	*Zip code*
	n/a	n/a	n/a	n/a

PLSS:

UTMs:

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	2/7/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	2/9/2011	gaby	Entered and updated record data
	3/28/2007	jay	Added records from hard-copy list provided by EIC.

Record status:

Resource Detail: P-33-006936

Identifying information

Primary No.: P-33-006936
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	Ser. No. 33-2507-14
National Register	7R

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
6/21/1982	T. Newman	Riverside County Historical Comm.	

Associated reports

Location information

County: Riverside
USGS quad(s): SAN BERNARDINO SOUTH
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1677 Elliott St.	Highgrove	249-031-002-5	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
3/11/2011	Ramon	Entered and updated record information

Record status:

Resource Detail: P-33-006947

Identifying information

Primary No.: P-33-006947
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	Ser. No. 33-2507-25
National Register	3S

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
6/21/1982	Thelma Newman	Riverside County Historical Commission	

Associated reports

Location information

County: Riverside
USGS quad(s): SAN BERNARDINO SOUTH
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1646 Palmyrita St.	Highgrove	249-021-003-5	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/11/2011	Isaiah	Information entered into database.
	3/28/2007	jay	Added records from hard-copy list provided by EIC.

Record status:

Resource Detail: P-33-011538

Identifying information

Primary No.: P-33-011538
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	Calvery Deaf Church Annex

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP16 (Religious building)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
9/11/1996	Richard Starzak, Lora Zier, and Myra L.	Frank & Associates, Inc.	

Associated reports

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1707 West La Cadena Drive	Riverside	209-020-024B	92501

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	9/12/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/16/2013	rachel	TLR-Entered quad

Record status:

Resource Detail: P-33-011539

Identifying information

Primary No.: P-33-011539
Trinomial:
Name:

Other IDs:	*Type*	*Name*
	Other	Ridgecourt
	Other	Clinton Hickock/William Bovd (Hopalong Cassidy) House
	Other	DOE-33-97-0006-0000
	National Register	2S2

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
9/11/1996	Richard Starzak, Lora Zier	Myra L. Frank & Assoc., Inc.	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST

Address:	*Address*	*City*	*Assessor's parcel no.*	*Zip code*
	3261 Strong Street	Riverside	206-142-017	92501

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/16/2013	rachel	TLR-Entered quad

Record status:

Resource Detail: P-33-012149

Identifying information

Primary No.: P-33-012149
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	1911 Dorothy Drive, Riverside
Other	Prop# 126250
Other	DOE-33-98-0003-0000

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1911 Dorothy Drive	Riverside	210-092-002	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.

Record status:

Resource Detail: P-33-012150

Identifying information

Primary No.: P-33-012150
Trinomial:
Name:
Other IDs:

Type	Name
Other	1912 Dorothy Drive, Riverside
Other	Prop# 126249
Other	DOE-33-98-0002-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
1912 Dorothy Drive	Riverside	210-092-003	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012151

Identifying information

Primary No.: P-33-012151
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	2047 Down Street, Riverside
Other	Prop# 126252
Other	DOE-33-98-0005-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
2047 Down Street	Riverside	210-091-022	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012152

Identifying information

Primary No.: P-33-012152
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	2057 Down Street, Riverside
Other	Prop# 126253
Other	DOE-33-98-0006-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
2057 Down Street	Riverside	210-091-025	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012153

Identifying information

Primary No.: P-33-012153
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	2108 Down Street, Riverside
Other	Prop# 12651
Other	DOE-33-98-0004-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
2108 Down Street	Riverside	210-092-001	92057

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012154

Identifying information

Primary No.: P-33-012154
Trinomial:
Name:

Other IDs:

Type	*Name*
Other	1608 La Cadena Drive East, Riverside
Other	Prop# 126259
Other	DOE-33-98-0012-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans--District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST

Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1608 La Cadena Drive East	Riverside	210-071-009	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012155

Identifying information

Primary No.: P-33-012155
Trinomial:
Name:
Other IDs:

Type	Name
Other	2067 Marlborough Avenue, Riverside
Other	Prop# 126262
Other	DOE-33-98-0015-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans--District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2067 Marlborough Avenue	Riverside	210-051-019	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	User	Action taken
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012156

Identifying information

Primary No.: P-33-012156
Trinomial:
Name:
Other IDs:

Type	Name
Other	2068 Marlborough Avenue, Riverside
Other	Prop# 126261
Other	DOE-33-98-0014-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans--District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2068 Marlborough Avenue	Riverside	210-071-011	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	User	Action taken
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012157

Identifying information

Primary No.: P-33-012157
Trinomial:
Name:
Other IDs:

Type	Name
Other	2075 Marlborough Avenue, Riverside
Other	Prop# 126263
Other	DOE-33-98-0016-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2075 Marlborough Avenue	Riverside	210-051-020	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	User	Action taken
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012158

Identifying information

Primary No.: P-33-012158
Trinomial:
Name:
Other IDs:

Type	Name
Other	2076 Marlborough Avenue, Riverside
Other	Prop# 126260
Other	DOE-33-98-0013-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2076 Marlborough Avenue	Riverside	210-071-010	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012159

Identifying information

Primary No.: P-33-012159
Trinomial:
Name:
Other IDs:

Type	Name
Other	2076 Blenheim Street, Riverside
Other	Prop# 126265
Other	DOE-33-98-0018-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2076 Blenheim Street	Riverside	210-051-001	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered locaiton

Record status:

Resource Detail: P-33-012160

Identifying information

Primary No.: P-33-012160
Trinomial:
Name:
Other IDs:

Type	Name
Other	2050 Blenheim Street, Riverside
Other	Prop# 126264
Other	DOE-33-98-0017-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2050 Blenheim Street	Riverside	210-051-004	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012161

Identifying information

Primary No.: P-33-012161
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	2051 Blenheim Street, Riverside
Other	Prop# 126266
Other	DOE-33-98-00-0019-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
2051 Blenheim Street	Riverside	210-052-010	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012162

Identifying information

Primary No.: P-33-012162
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	2037 Milton Street, Riverside
Other	Prop# 126269
Other	DOE-33-98-0022-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
2037 Milton Street	Riverside	210-042-017	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012163

Identifying information

Primary No.: P-33-012163
Trinomial:
Name:
Other IDs:

Type	Name
Other	2023 Milton Street, Riverside
Other	Prop# 126268
Other	DOE-33-98-0021-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2023 Milton Street	Riverside	210-042-016	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012164

Identifying information

Primary No.: P-33-012164
Trinomial:
Name:
Other IDs:

Type	Name
Other	2009 Milton Street, Riverside
Other	Prop# 126267
Other	DOE-98-0020-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
2009 Milton Street	Riverside	210-042-015	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012165

Identifying information

Primary No.: P-33-012165
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	1767 Mathews Street, Riverside
Other	Prop# 126254
Other	DOE-33-98-0007-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1767 Mathews Street	Riverside	210-071-024	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-012166

Identifying information

Primary No.: P-33-012166
Trinomial:
Name:
Other IDs:

Type	Name
Other	1673 Mathews Street, Riverside
Other	Prop# 126255
Other	DOE-33-98-0008-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
1673 Mathews Street	Riverside	210-071-028	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	User	Action taken
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	rachel	TLR-Entered into quad

Record status:

Resource Detail: P-33-012167

Identifying information

Primary No.: P-33-012167
Trinomial:
Name:
Other IDs:

Type	Name
Other	1659 Mathews Street, Riverside
Other	Prop# 126256
Other	DOE-33-98-0009-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
1659 Mathews Street	Riverside	210-071-016	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	rachel	TLR-Entered into quad

Record status:

Resource Detail: P-33-012168

Identifying information

Primary No.: P-33-012168
Trinomial:
Name:
Other IDs:

Type	Name
Other	1645 Mathews Street, Riverside
Other	Prop# 126257
Other	DOE-33-98-0010-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
1645 Mathews Street	Riverside	210-071-015	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	User	Action taken
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	rachel	TLR-Entered into quad

Record status:

Resource Detail: P-33-012169

Identifying information

Primary No.: P-33-012169
Trinomial:
Name:
Other IDs:

Type	Name
Other	1635 Mathews Street, Riverside
Other	Prop# 126258
Other	DOE-33-98-0011-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base:
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	Recorder(s)	Affiliation	Notes
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	Year	Title	Affiliation
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	City	Assessor's parcel no.	Zip code
1635 Mathews Street	Riverside	210-071-014	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	User
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	User	Action taken
3/28/2007	jay	Added records from hard-copy list provided by EIC.
8/20/2013	rachel	TLR-Entered into quad

Record status:

Resource Detail: P-33-012170

Identifying information

Primary No.: P-33-012170
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	1179 La Cadena Drive West, Riverside
Other	Prop# 126271
Other	DOE-33-98-0024-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): SAN BERNARDINO SOUTH
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1179 La Cadena Drive West	Riverside	206-121-009	92501

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.

Record status:

Resource Detail: P-33-012171

Identifying information

Primary No.: P-33-012171
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	1964 Spring Garden Street, Riverside
Other	Prop# 126270
Other	DOE-33-98-0023-0000
National Register	6Y

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
7/24/1998	David Bricker	Caltrans District 8	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06088	1998	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8

Location information

County: Riverside
USGS quad(s): SAN BERNARDINO SOUTH
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1964 Spring Garden Street	Riverside	210-042-002	92507

PLSS:
UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	3/28/2007	jay
Last modified:	9/13/2019	aruadmin

IC actions:

Date	*User*	*Action taken*
3/28/2007	jay	Added records from hard-copy list provided by EIC.

Record status:

Resource Detail: P-33-013078

Identifying information

Primary No.: P-33-013078
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	CRM TECH 1052-1H

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
5/9/2003	Josh Smallwood	CRM TECH	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-05993	2003	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 30907, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA	CRM TECH

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
2012 Marlborough Avenue	Riversie	210-080-003	92501

PLSS: T2S R5W NE¼ of SE¼ of Sec. 13 SBBM
UTMs: Zone 11 467720mE 3761660mN NAD83 (Datum not given)

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	gaby	sh-entered location

Record status:

Resource Detail: P-33-013535

Identifying information

Primary No.: P-33-013535
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	CRM TECH 1186-1H

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
12/1/2003	Bai "Tom" Tang	CRM TECH	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
RI-06001	2003	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NUMBER 210-080-043, 1793 CHICAGO AVENUE, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA	CRM TECH

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1793 Chicago Avenue	Riverisde	210-080-043	92507

PLSS: T2S R5W NE¼ of SE¼ of Sec. 13 SBBM
UTMs: Zone 11 467877mE 3761909mN NAD83 (datum not given)

Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	rachel	TLR-Entered quad

Record status:

Resource Detail: P-33-013536

Identifying information

Primary No.: P-33-013536
Trinomial:
Name:
Other IDs:

Type	*Name*
Other	CRM TECH 1187-1H

Cross-refs:

Attributes

Resource type: Building
Age: Historic
Information base: Survey
Attribute codes: HP02 (Single family property)
Disclosure: Unrestricted
Collections: No
Accession no(s): n/a
Facility: n/a

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
12/1/2003	Josh Smallwood	CRM TECH	

Associated reports

Location information

County: Riverside
USGS quad(s): RIVERSIDE EAST
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
1819 Chicago Avenue	Riverside	210-110-030	92507

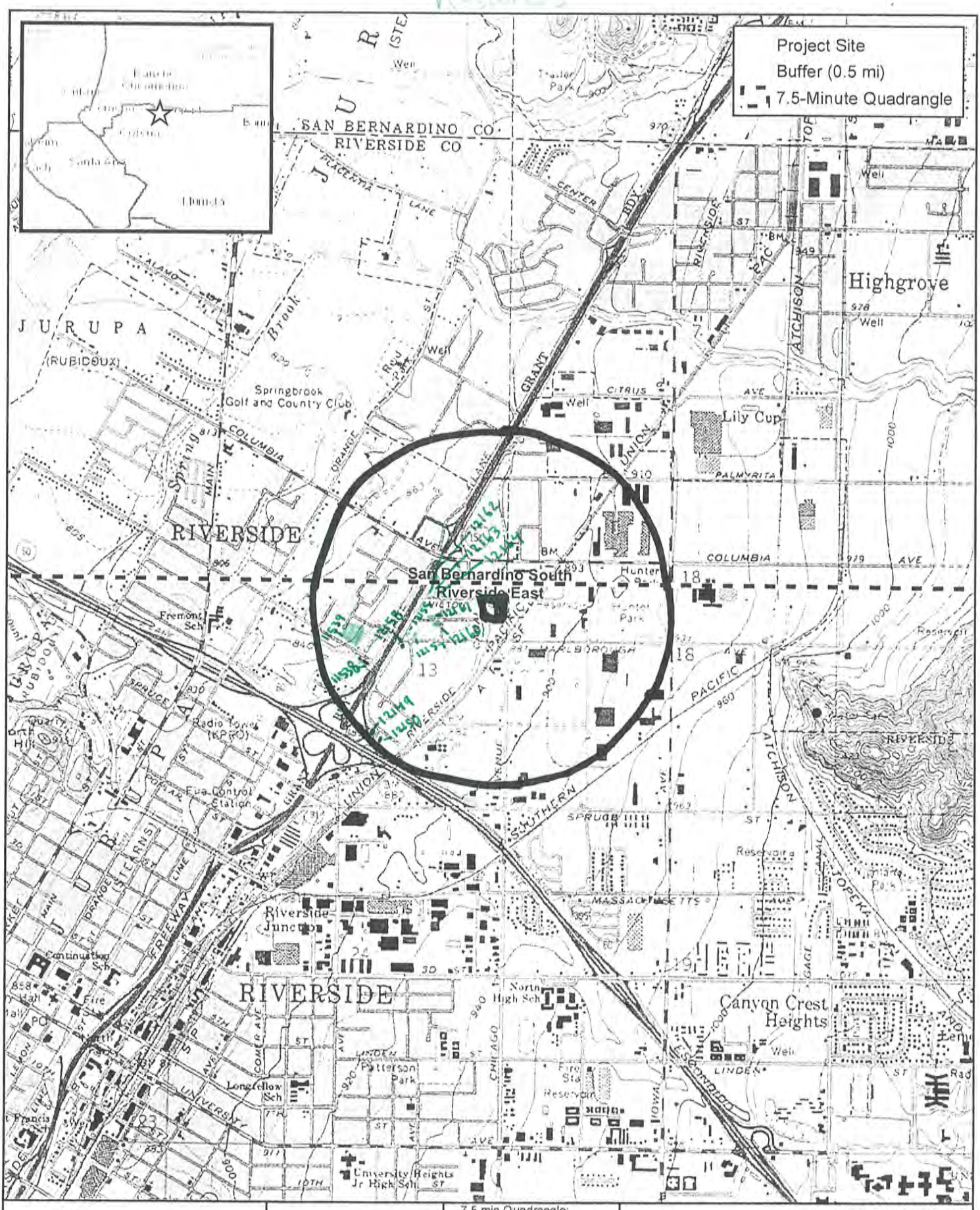
PLSS: T2S R5W SE¼ of SE¼ of Sec. 13 SBBM
UTMs: Zone 11 467888mE 3761888mN NAD83 (datum not provided)

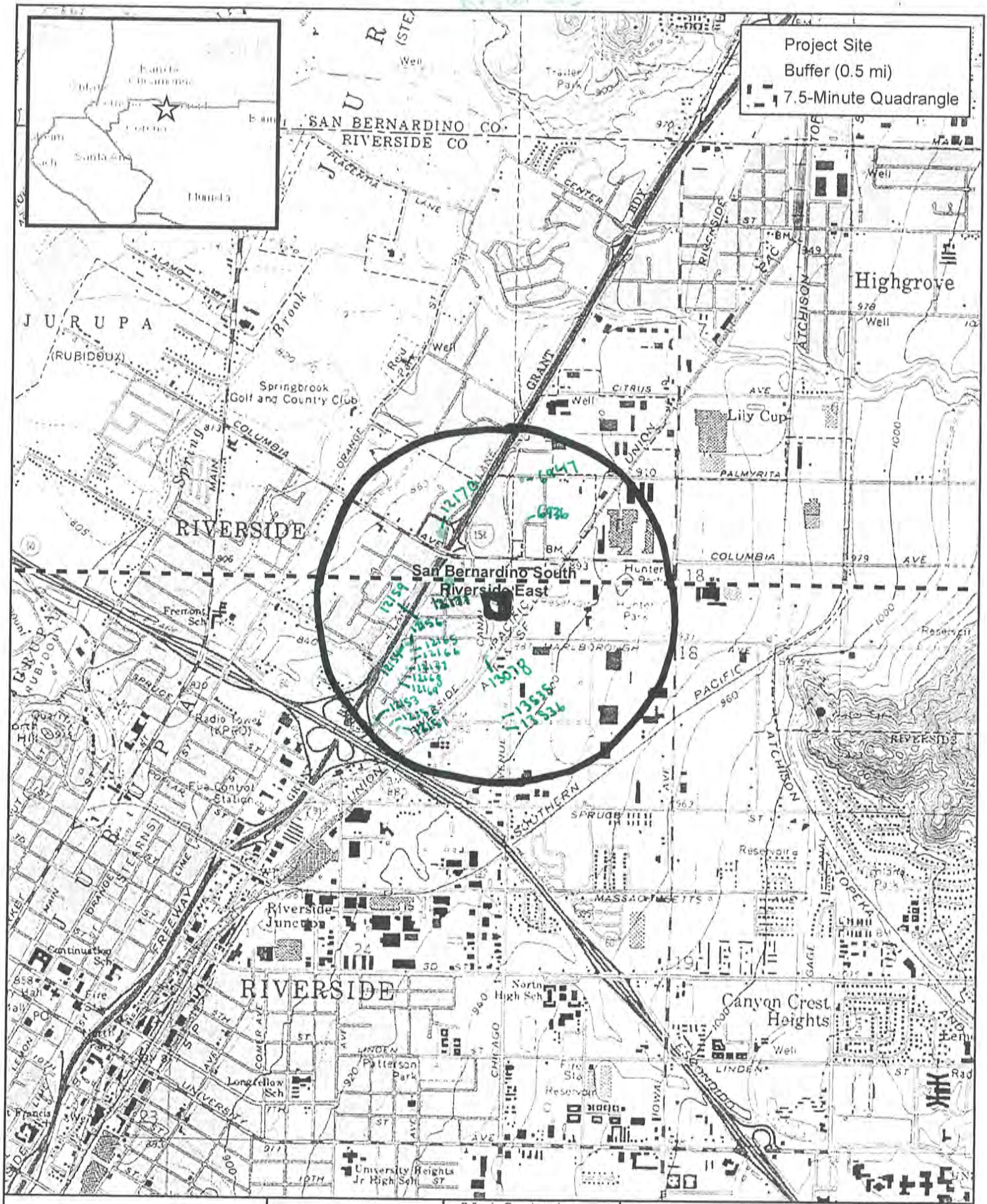
Management status

Database record metadata

	Date	*User*	
Entered:	3/28/2007	jay	
Last modified:	9/13/2019	aruadmin	
IC actions:	*Date*	*User*	*Action taken*
	3/28/2007	jay	Added records from hard-copy list provided by EIC.
	8/20/2013	rachel	TLR-Entered quad

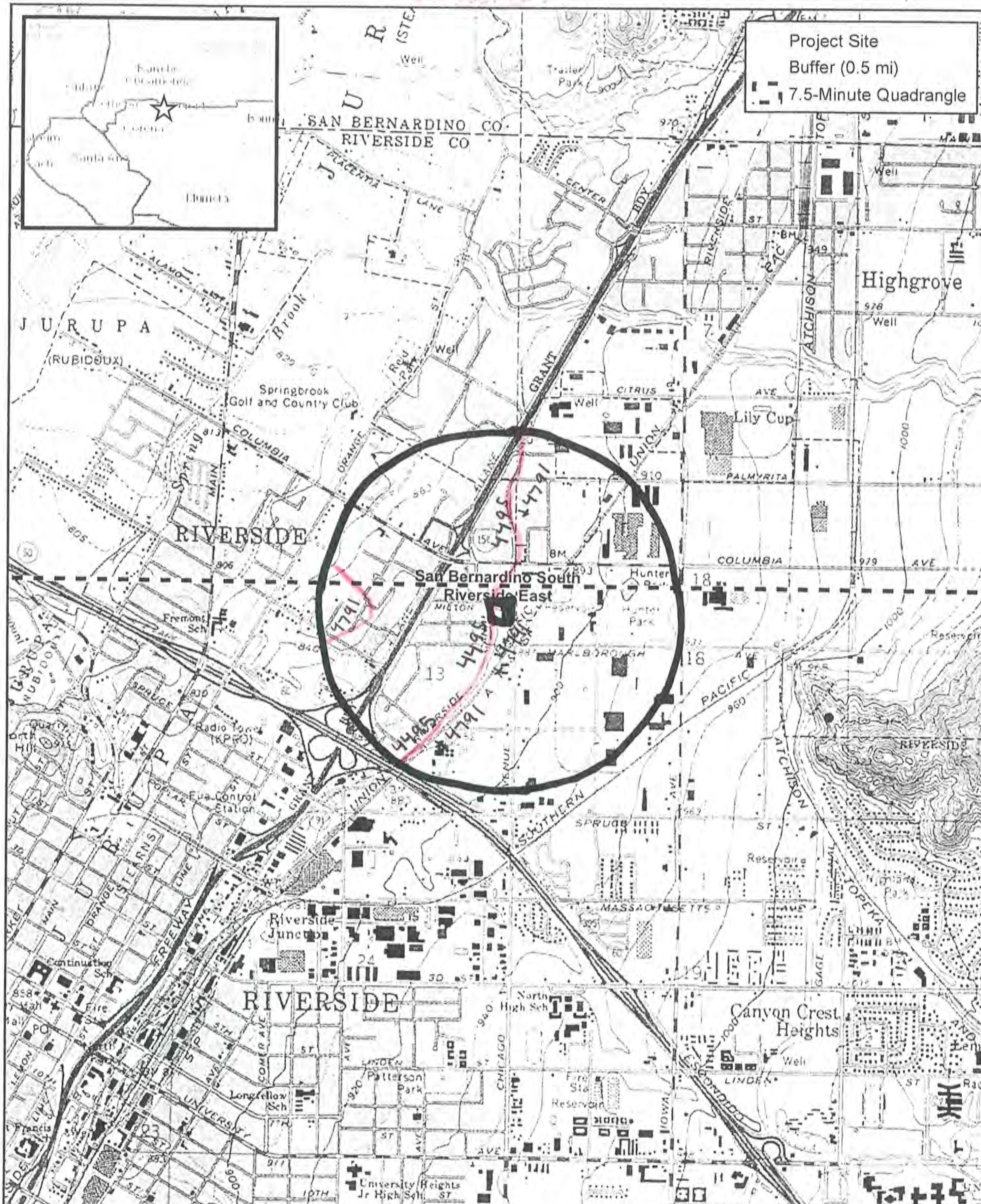
Record status:


Project Site
Buffer (0.5 mi)
7.5-Minute Quadrangle
SAN BERNARDINO CO
RIVERSIDE CO
JURUPA
(RUBIDOUX)
RIVERSIDE
Highgrove
Lily Cup
Springbrook Golf and Country Club
San Bernardino South
Riverside East
Riverside Junction
Canyon Crest Heights
University Heights Jr High Sch
Prepared By:
VCS Environmental
Map Created: Aug 2019
0 500 1,000 1,500 2,000 Feet
1:24,000
7.5 min Quadrangle:
Riverside East
Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside
Hunter Substation
USGS Basemap



Prepared By: Map Created: Aug 2019 VCS Environmental	0 500 1,000 1,500 2,000 Feet 1:24,000	7.5 min Quadrangle: Riverside East Township: T2S R5W Meridian: San Bernardino State: California County: Riverside	**Hunter Substation** USGS Basemap

Resources



Prepared By:

Map Created: Aug 2019

VCS Environmental

0 500 1,000 1,500 2,000 Feet

1:24,000

7.5 min Quadrangle:
Riverside East

Township: T2S R5W
Meridian: San Bernardino
State: California
County: Riverside

Hunter Substation

USGS Basemap

ATTACHMENT B

PALEONTOLOGICAL RESOURCES RECORDS SEARCH (NHMLAC)

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

5 September 2019

VCS Environmental
30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, CA 92675

Attn: Patrick O. Maxon, Director, Cultural Services

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed Hunter Substation Project, in the City of Riverside, Riverside County, project area

Dear Patrick:

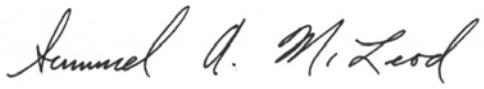
I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Hunter Substation Project, in the City of Riverside, Riverside County, project area as outlined on the portion of the Riverside East USGS topographic quadrangle map that you sent to me via e-mail on 22 August 2019. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have vertebrate fossil localities somewhat nearby from sedimentary deposits somewhat similar to those that occur in the proposed project area.

Surficial deposits in the entire proposed project area consist of older Quaternary Alluvium, derived as alluvial fan deposits from the Box Spring Mountains to the east. In this vicinity these deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but at modest depth they may well contain significant fossil vertebrate remains. Our closest fossil vertebrate locality from older Quaternary deposits is LACM 7811, almost due west of the proposed project area west of Mira Loma along Sumner Avenue north of Cloverdale Road, that produced a fossil specimen of whipsnake, *Masticophis*, at a depth of 9 to 11 feet below the surface. Additionally, our locality LACM 1207, west-southwest of the proposed project area between Corona and Norco, produced a fossil specimen of deer, *Odocoileus*.

Shallow excavations in the Quaternary deposits exposed in the proposed project area may not uncover significant fossil vertebrate remains. Deeper excavations that extend down into finer-grained older Quaternary deposits, however, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally recover any potential vertebrate fossils without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

ATTACHMENT C

NATIVE AMERICAN SCOPING (NAHC)

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

September 24, 2019

Patrick Maxon
VCS Environmental

VIA Email to: pmaxon@vcsenvironmental.com

RE: Hunter Substation Replacement Project, Riverside County

Dear Mr. Maxon:

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 the NAHC. 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: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Riverside County
9/24/2019

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 Rroad — 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 Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

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

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 Hunter Substation Replacement Project, Riverside County.

Native American Heritage Commission
Native American Contact List
Riverside County
9/24/2019

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Vanyume
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

San Manuel Band of Mission Indians
Lee Clauss, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Fax: (909) 864-3370
lclauss@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Mercedes Estrada,
P. O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
mercedes.estrada@santarosacahuilla-nsn.gov

Santa Rosa Band of Cahuilla Indians
Steven Estrada, Chairperson
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
mflaxbeard@santarosacahuilla-nsn.gov

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

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

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

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 Hunter Substation Replacement Project, Riverside County.

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians – Kizh Nation
ATTN: AB52 Project Notice
P.O. Box 393
Covina, CA 91723

Jose Ontiveros, Cultural Resources
Soboba Band of Luiseño Indian
ATTN: AB52 Project Notice
P.O. Box 487
San Jacinto, CA 92581

BobbyRay Esparza
Cultural Coordinator
Cahuilla Band of Indians
ATTN: AB52 Project Notice
52701 Highway 371
Anza, CA 92539

Ebru T. Ozdil, Planning Specialist
Pechanga Cultural Resources Dept
ATTN: AB52 Project Notice
P.O. Box 2183
Temecula, CA 92593

Destiny Colocho, Cultural Resources
Rincon Band of Luiseño Indians
ATTN: AB52 Project Notice
1West Tribal Road
Valley Center, CA 92082

Lee Clauss–CRM Department
San Manuel Band of Mission Indians
ATTN: AB52 Project Notice
26569 Community Center Dr.
Highland, CA 92346

Travis Armstrong
Cultural Resources Specialist
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

Robert Martin
Tribal Chairman
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

Patricia Garcia
Director of Tribal Hist. Presrv. Ofce
Agua Caliente Band of Cahuilla Indians
ATTN: AB52 Project Notice
5401 Dinah Shore Dr.
Palm Springs, CA 92264

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

ATTACHMENT D

BUILT ENVIRONMENT EVALUATION (DALY 2019)

DALY & ASSOCIATES
2242 El Capitan Drive, Riverside, California 92506
(951) 369-1366 ■ daly.rvrsde@sbcglobal.net

October 16, 2019

Patrick O. Maxon, M.A., RPA
Director, Cultural Resource Services
VCS Environmental
30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, CA 92675

Re: Phase 1 Survey of Riverside Public Utilities Hunter Substation, Riverside, CA

Dear Mr. Maxon;

Daly & Associates is pleased to present our findings from the completion of a Phase 1 survey for the presence of potential historical resources situated at the site noted above. The survey of built-environment resources and history of the property was performed by Pamela Daly, M.S.H.P., Principal Architectural Historian who exceeds the professional qualifications for architectural historians and historians set by the United States Secretary of the Interior.

The Hunter Substation, owned and operated by Riverside Public Utilities (RPU), was surveyed to ascertain if any of the structures on the property, individually or collectively, have the potential to be considered a historical resource under the criteria for listing a property in the California Register of Historical Resources, or as a Historic Resource in the City of Riverside.[1]

Project Description

The existing 69/12 kilovolt (kV) Hunter Electrical Substation (existing Hunter Substation) is located at 1731 Marlborough Avenue, near the intersection of Marlborough Avenue and Chicago Avenue, south of Columbia Avenue in the City of Riverside, California (refer to Figure 1, Project Vicinity Map and Figure 2, Project Location Map). The project to remove the existing substation and construct a new facility (Project) includes the existing substation site (APN 210-060-049), as well as the adjacent parcel (APN 210-060-033), which is also owned by the City of Riverside. The existing substation and the new substation areas (collectively referred to as the "Project Site") comprise approximately 2.5-acres of land located within an urban area.

The western parcel of the Project Site (APN 210-060-033) is currently undeveloped. The Project Site is bordered by Chicago Avenue to the east with a railroad yard right-of-way beyond, a concrete storm water drainage channel to the west with a residential neighborhood beyond, and commercial/industrial building developments to the north and south (see Figure 3 for aerial view of Hunter Substation and its surroundings).

[1] California Register of Historical Resources: http://ohp.parks.ca.gov/?page_id=21238

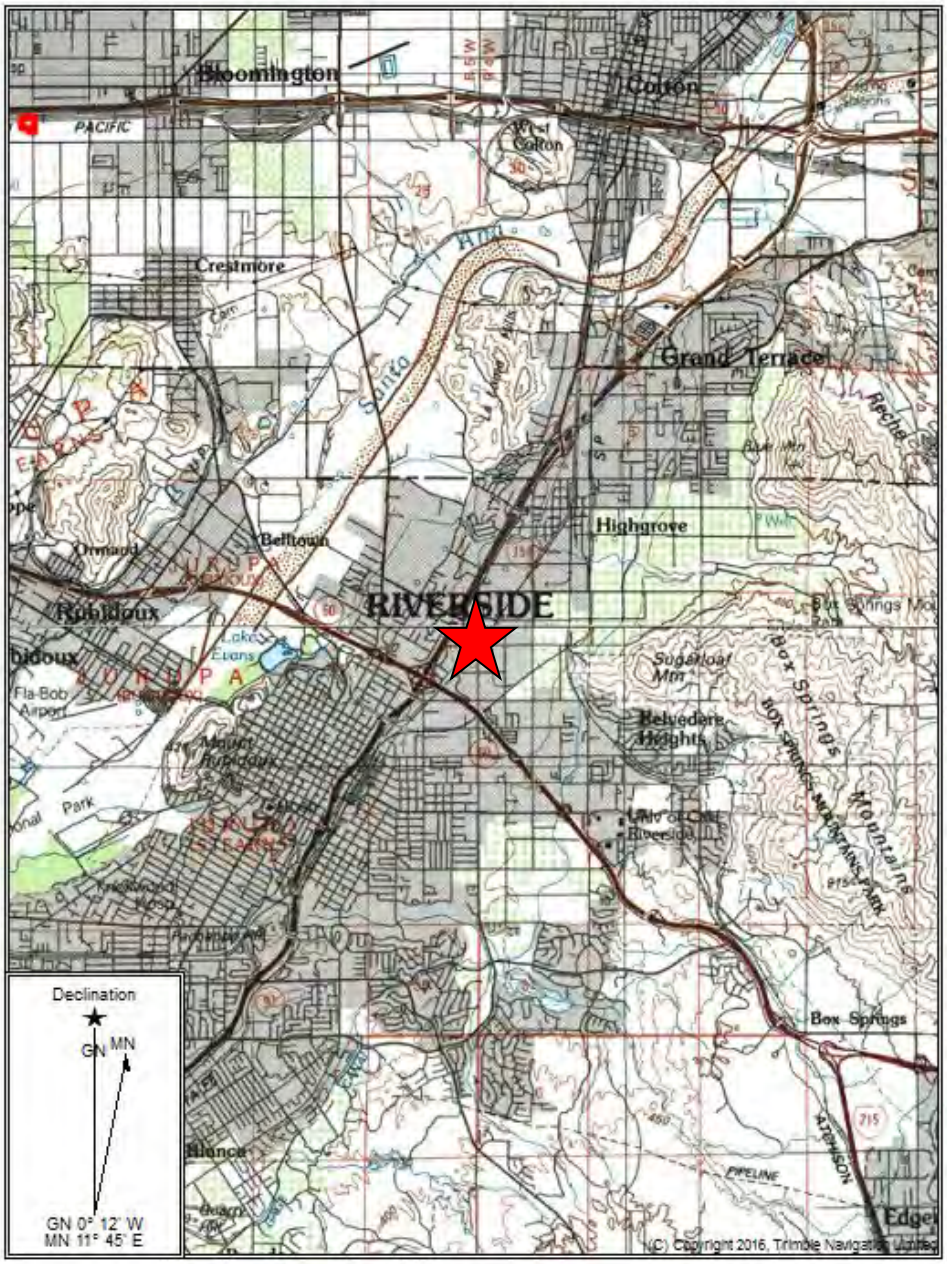


Figure 1: Project Vicinity
Riverside Public Utilities - Hunter Substation
Riverside, Riverside County, CA

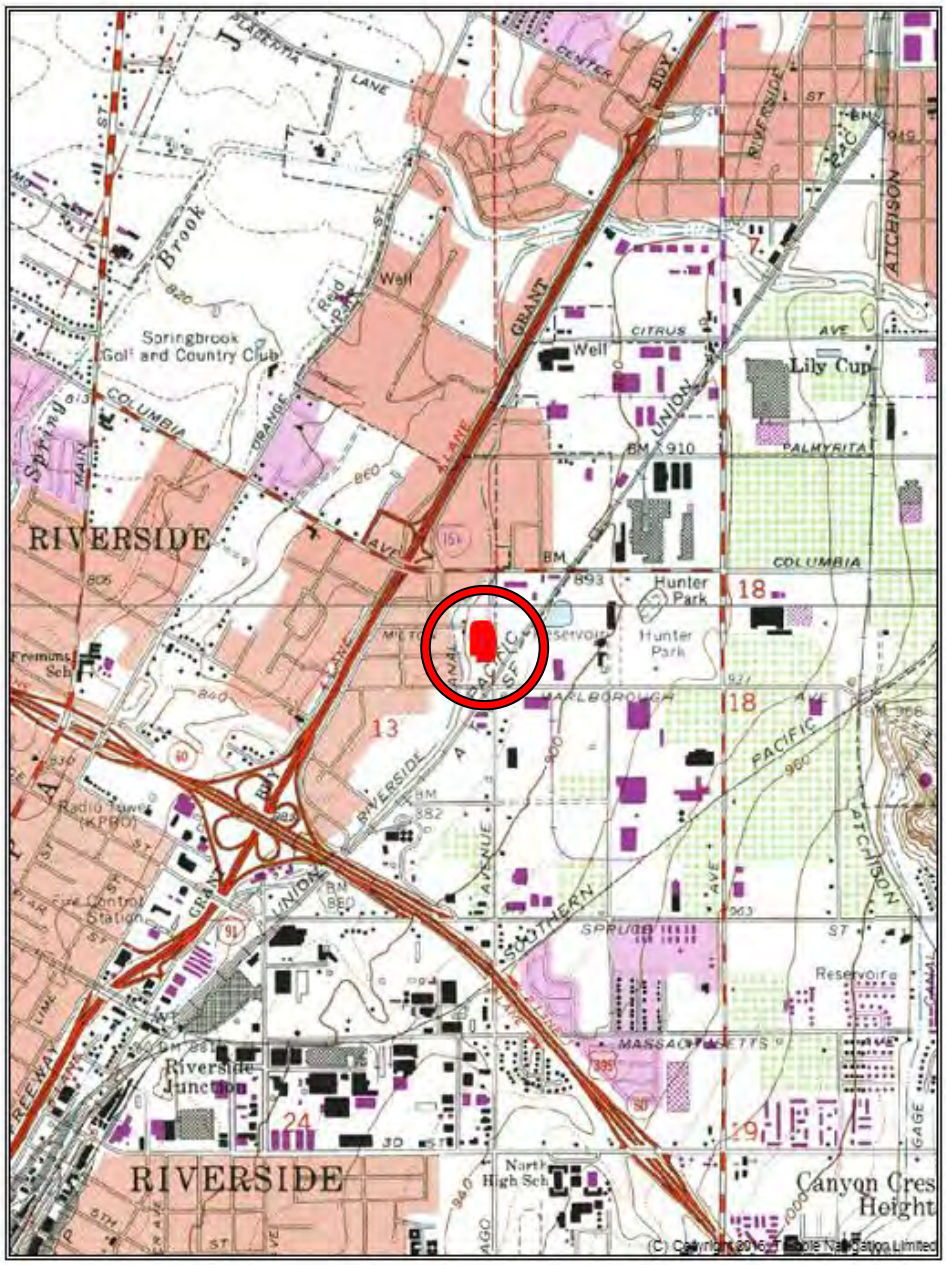


Figure 2: Project Location
Riverside Public Utilities - Hunter Substation
Riverside, Riverside County, CA

SCALE 1:3000

0 100 200 300 400 500

Feet

Figure 3: Aerial View
Riverside Public Utilities - Hunter Substation
Riverside, Riverside County, CA

The Hunter Substation serves electricity to approximately 4,750 customers, and the electrical capacity of the substation is near the maximum design capacity. The 10-year load forecast in the Project service area is 20-25 megawatts (MW). The existing Hunter Substation does not have the electrical or physical capacity to serve this forecasted load. Also, the existing and projected Hunter Substation load cannot be transferred to nearby stations due to the size of the load and the limited capacity of the nearby substations. Therefore, Hunter Substation must be rebuilt and expanded to support the projected load growth.

The existing Hunter Substation is a 69/12kV *distribution substation*[2] because it converts electricity from 69kV to 12kV. Hunter Substation intakes the higher voltage power from the greater RPU *Electric Grid*[3] and converts it to lower voltage for use by customers in the electric load area.

The Proposed Project will replace the existing Hunter Substation with a new 69/12kV electrical substation to be located on the adjacent vacant parcel. Specifically, the Proposed Project will include the following main components:

1. Construction of a new 69/12kV on vacant land adjacent to - and west of - the existing Hunter substation;
2. Loop-in (make connections to) four existing 69kV sub-transmission lines and ten existing 12kV distribution lines to the new substation;
3. Decommission and removal of the existing substation; and
4. Construct and operate a warehouse facility that will store equipment and materials used by RPU for operation and maintenance of the entire RPU electrical grid system.

Hunter Substation was built in 1960, and many of the existing substation components are near or past the end of their useful life. Replacing the entire substation with a complete new substation facility is a more efficient, cost effective, and viable long-term solution when compare to piecemeal replacement of parts and components.

Hunter Substation is a 69/12kV distribution, *air insulated substation*[4] (AIS) approximately one acre in size (fenced area) (Figure 4). Hunter Substation has been operated continuously by RPU, and has made upgrades and incrementally increased the capacity of the substation since its initial construction. The existing Hunter Substation includes the following key features and equipment:

---

[2] *Distribution substations* are defined as any substation that is connected to one or more distributions lines.
[3] The *Electric Grid*, or *Grid* for short, refers to the full system electrical transmission and distribution system, including generation, energy storage, energy transmission (i.e., transmission lines), and distribution (i.e., distribution lines).
[4] Electric substations require an insulating substrate to insulate certain energized portions of the substation. The most common method is to use the existing atmosphere, or air, for this insulating substrate. Therefore, these substations are referred to as *air insulated substations*, or AIS.

- (4) Four 69kV Sub-transmission Lines
- (8) Eight 69kV Circuit Breakers
- (2) Two 69kV-4.36kV Power Transformers
- (4) Four 69kV-12kV Power Transformers
- (2) Two 4kV Switchgears
- (4) Four 12kV Switchgears
- (1) One 15kV, 2 Stages of 3000kV Capacitor Bank

Access to the existing Hunter Substation is from the east (access directly to Chicago Avenue) and from the north where a substation gate is located at the end of an approximately 150-foot paved driveway that leads from Chicago Avenue to the gate that served as the previous access to the eastern parcel.

Figure 4: Hunter Substation. View looking north.

History of Riverside Electric System

The California Electric Light Company, located in San Francisco had been the first company to sell direct current (DC) electric power to subscribers in 1879. That same year, the City of Los Angeles had ordered its first outdoor public lights from the California Electric Light Company.

Riverside was as modern as any city with the installation of electric lights and comforts being noted by a *Los Angeles Times* correspondent visiting the city in 1882. The writer noted that the Glenwood Inn, run by Frank A. Miller and his sister was "luxuriously furnished, and all provided

with the electric bell and speaking tubes."[5] The switch to alternate current (AC) power began in 1883, and in nearby Redlands, Redlands Mill Number 1 powerstation, situated at the headwaters of the Santa Ana River was the first 3-phase AC powerstation in the world, and provided power over a 7-mile transmission line.[6]

With the conversion to AC in the late 1800s, there have been constant improvements to the efficiency and capacity of substations and their equipment. Consider that one of the first AC powerhouses in the United States, located nearby in Redlands, produced just enough power to light the small settlement in Redlands in 1893. By 1936, Hoover Dam was producing enough power to provide electric energy for all of Los Angeles County. With the power generated by Hoover Dam, public utilities were required to construct regional electric grids capable of converting the higher voltage to local levels.

The City of Riverside expanded upon their power grid system by securing power from outside the city, and transferring that power to residents and businesses through substations situated near the more populated areas of the city. After World War II, with the influx of residents to Riverside not only for jobs and housing, but to attend the University of California at Riverside, meant that new substations had to be installed near the large shopping areas such as along Magnolia Avenue and the Riverside Plaza. The Hunter Substation would have been constructed to accommodate an increase to both the industrial, commercial, and residential growth in the northern area of the city.

Evaluation of Hunter Substation

A site visit and pedestrian-level inspection of the Hunter Substation was performed by Pamela Daly, M.S.H.P. on September 24, 2019. The substation is comprised of one control house and multiple transformers, power vaults, switchgears and duct banks built upon concrete pads, all enclosed within a secure-fenced area.

Hunter Substation has not been previously surveyed for the investigation and documentation of cultural resources. The structures and objects located within the fenced area of the substation have not been previously surveyed and evaluated by a qualified architectural historian for listing as a historic resource in the City of Riverside, California Register of Historical Resources, or National Register of Historic Places. As part of the planned project to upgrade RPUs electric grid, surveys and evaluations have been completed for projects at the Magnolia Substation, the Plaza Substation, and the Casa Blanca Substation.

In order to identify and evaluate the structures and objects that are associated with the Hunter Substation, a multi-step methodology was utilized. An inspection was made of the existing structures and associated features, combined with a review of accessible archival sources was performed to document existing conditions and assist in assessing and evaluating the property

[5] *Los Angeles Times*. "Riverside: The Modern Wonder by Santa Ana's Meandering Marge." October 27, 1882.
[6] "History of Electrification: Birth of Our Power Grid". http://www.edisontechcenter.org/HistElectPowTrans.html

for significance. Photographs were taken of substation, including photographs of architectural details or other points of interest, during the on-site survey. The photographs will be used to prepare the California Office of Historic Preservation Historical Resources Inventory Form (DPR Form series) to document the current built-environment of each station.

RPU has provided for this investigation information regarding the type and usage of the electrical equipment found within Hunter Substation. This information, combined with internet sources that describe the history and significant milestones in the historic discovery, inventions, and development of electrical systems within urban settings, support the determination of this evaluation that the substation was designed and constructed for the straightforward utilitarian purpose of providing equipment to step-down the incoming electric power to the City of Riverside.

Under National Register, California Register, or City of Riverside criteria relating to the substations association with significant historical events that exemplifying broad patterns of our history, Hunter Substation does not appear to qualify as a significant historic resource. The Riverside substation was one of thousands that were constructed across the United States as part of regional and local electric grids after World War II. Archival research does not reveal that Hunter Substation was the site of any significant historic events. There is no evidence that the substation is eligible for listing under Criterion A/1.

Under criteria relating to Hunter Substation's direct association with persons of historic importance, the substation does not appear to qualify as a significant resource. There is no evidence that the substation was directly associated with persons important to the technological advancement in electric power, or with persons important in the City of Riverside, California, or the United States. The substation has been determined not eligible for listing under Criterion B/2.

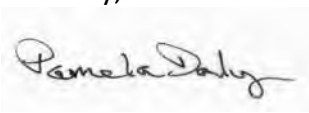
Under National Register, California Register, or City of Riverside criteria relating to the distinctive characteristics of a type, period, region, or method of construction, Hunter Substation is not significant, as it does not embody a high level of technological sophistication, nor does it appear to have been designed or constructed by a notable engineer using cutting-edge technology. Built in the 1950s and 1960s using a utilitarian design and commonly available equipment, these types of urban substations were widely found throughout the United States. Since its original construction, Hunter Substation has been constantly upgraded through repairs and maintenance for improved efficiency. Hunter Substation does not appear eligible for listing under Criterion C/3.

There does not appear to be evidence to believe that the site of Hunter Substation has the potential to yield important information regarding the history of the City of Riverside, California, or the nation pursuant to Criterion D/4.

In summation, Hunter Substation is not eligible for listing in the National Register, California Register, or as a City of Riverside significant historic resource.

Please don't hesitate to contact us with any questions or further information.

Sincerely,



Pamela Daly, M.S.H.P.
Principal

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 #:** Hunter Substation

P1. Other Identifier: APN 210-060-049
***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 **Date:** 1980 **T** ; **R** ; **¼ of** **¼ of Sec** ; S.B.**B.M.**
c. Address: 1731 Marlborough Avenue City: Riverside Zip: 92507
d. UTM: Zone: 11 ; 467786 mE/ 3762088 mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 887 feet above sea-level

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
Hunter Substation is a 69/12kV distribution, *air insulated substation* (AIS) approximately one acre in size (fenced area).
The existing Hunter Substation includes the following key features and equipment:

- (4) Four 69kV Sub-transmission Lines
- (8) Eight 69kV Circuit Breakers
- (2) Two 69kV-4.36kV Power Transformers
- (4) Four 69kV-12kV Power Transformers
- (2) Two 4kV Switchgears
- (4) Four 12kV Switchgears
- (1) One 15kV, 2 Stages of 3000kV Capacitor Bank

Access to the existing Hunter Substation is from the east (access directly to Chicago Avenue) and from the north where a substation gate is located at the end of an approximately 150-foot paved driveway that leads from Chicago Avenue to the gate that served as the previous access to the eastern parcel.

***P3b. Resource Attributes:** HP9 (Public utility substation)
***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

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

P5b. Description of Photo: (View, date, accession #) View looking northwest. September 24, 2019.

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
Constructed in 1961, per Riverside Public Utilities.
***P7. Owner and Address:**
Riverside Public Utilities

***P8. Recorded by:**
Pamela Daly, M.S.H.P.
Daly & Associates
2242 El Capitan Drive
Riverside, CA 92501

***P9. Date Recorded:**
October 16, 2019
***P10. Survey Type:**
Phase 1, CEQA.

***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 # : Hunter Substation**

B1. Historic Name: Hunter Substation
B2. Common Name: Hunter Substation
B3. Original Use: electric station to reduce power
B4. Present Use: Same

***B5. Architectural Style:** N/A

***B6. Construction History:** (Construction date, alterations, and date of alterations)
Constructed in 1961 per Riverside Public Utilities engineering department.

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**

***B8. Related Features:** None

B9a. Architect: Unknown
b. Builder: Unknown

***B10. Significance:** None **Theme:** None **Area:** City of Riverside
Period of Significance: None **Property Type:** **Applicable Criteria:** None

The California Electric Light Company, located in San Francisco had been the first company to sell direct current (DC) electric power to subscribers in 1879. That same year, the City of Los Angeles had ordered its first outdoor public lights from the California Electric Light Company.

Riverside was as modern as any city with the installation of electric lights and comforts being noted by a *Los Angeles Times* correspondent visiting the city in 1882. The writer noted that the Glenwood Inn, run by Frank A. Miller and his sister was "luxuriously furnished, and all provided with the electric bell and speaking tubes." The switch to alternate current (AC) power began in 1883, and in nearby Redlands, Redlands Mill Number 1 powerstation, situated at the headwaters of the Santa Ana River was the first 3-phase AC powerstation in the world, and provided power over a 7-mile transmission line.

With the conversion to AC in the late 1800s, there have been constant improvements to the efficiency and capacity of substations and their equipment. Consider that one of the first AC powerhouses in the United States, located nearby in Redlands, produced just enough power to light the small settlement in Redlands in 1893. By 1936, Hoover Dam was producing enough power to provide electric energy for all of Los Angeles County. With the power generated by Hoover Dam, public utilities were required to construct regional electric grids capable of converting the higher voltage to local levels.

The City of Riverside expanded upon their power grid system by securing power from outside the city, and transferring that power to residents and businesses through substations situated near the more populated areas of the city. After World War II, with the influx of residents to Riverside not only for jobs and housing, but to attend the University of California at Riverside, meant that new substations had to be installed near the large shopping areas such as along Magnolia Avenue and the Riverside Plaza. The Hunter Substation would have been constructed to accommodate an increase to both the industrial, commercial, and residential growth in the northern area of the city.

(See Continuation Sheet for additional text.)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

B13. Remarks:

***B14. Evaluator:** Pamela Daly, M.S.H.P.

***Date of Evaluation:** October 16, 2019

(This space reserved for official comments.)

*Recorded by: Pamela Daly, M.S.H.P. *Date: October 16, 2019 ☒Continuation ☐ Update

B10. Statement of Significance, continued:

A site visit and pedestrian-level inspection of the Hunter Substation was performed by Pamela Daly, M.S.H.P. on September 24, 2019. The substation is comprised of one control house and multiple transformers, power vaults, switchgears and duct banks built upon concrete pads, all enclosed within a secure-fenced area.

Hunter Substation has not been previously surveyed for the investigation and documentation of cultural resources. The structures and objects located within the fenced area of the substation have not been previously surveyed and evaluated by a qualified architectural historian for listing as a historic resource in the City of Riverside, California Register of Historical Resources, or National Register of Historic Places. As part of the planned project to upgrade RPUs electric grid, surveys and evaluations have been completed for projects at the Magnolia Substation, the Plaza Substation, and the Casa Blanca Substation.

In order to identify and evaluate the structures and objects that are associated with the Hunter Substation, a multi-step methodology was utilized. An inspection was made of the existing structures and associated features, combined with a review of accessible archival sources was performed to document existing conditions and assist in assessing and evaluating the property for significance. Photographs were taken of substation, including photographs of architectural details or other points of interest, during the on-site survey. The photographs will be used to prepare the California Office of Historic Preservation Historical Resources Inventory Form (DPR Form series) to document the current built-environment of each station.

RPU has provided for this investigation information regarding the type and usage of the electrical equipment found within Hunter Substation. This information, combined with internet sources that describe the history and significant milestones in the historic discovery, inventions, and development of electrical systems within urban settings, support the determination of this evaluation that the substation was designed and constructed for the straightforward utilitarian purpose of providing equipment to step-down the incoming electric power to the City of Riverside.

Under National Register, California Register, or City of Riverside criteria relating to the substations association with significant historical events that exemplifying broad patterns of our history, Hunter Substation does not appear to qualify as a significant historic resource. The Riverside substation was one of thousands that were constructed across the United States as part of regional and local electric grids after World War II. Archival research does not reveal that Hunter Substation was the site of any significant historic events. There is no evidence that the substation is eligible for listing under Criterion A/1.

Under criteria relating to Hunter Substation's direct association with persons of historic importance, the substation does not appear to qualify as a significant resource. There is no evidence that the substation was directly associated with persons important to the technological advancement in electric power, or with persons important in the City of Riverside, California, or the United States. The substation has been determined not eligible for listing under Criterion B/2.

Under National Register, California Register, or City of Riverside criteria relating to the distinctive characteristics of a type, period, region, or method of construction, Hunter Substation is not significant, as it does not embody a high level of technological sophistication, nor does it appear to have been designed or constructed by a notable engineer using cutting-edge technology. Built in the 1950s and 1960s using a utilitarian design and commonly available equipment, these types of urban substations were widely found throughout the United States. Since its original construction, Hunter Substation has been constantly upgraded through repairs and maintenance for improved efficiency. Hunter Substation does not appear eligible for listing under Criterion C/3.

There does not appear to be evidence to believe that the site of Hunter Substation has the potential to yield important information regarding the history of the City of Riverside, California, or the nation pursuant to Criterion D/4.

Aerial View of Hunter Substation.

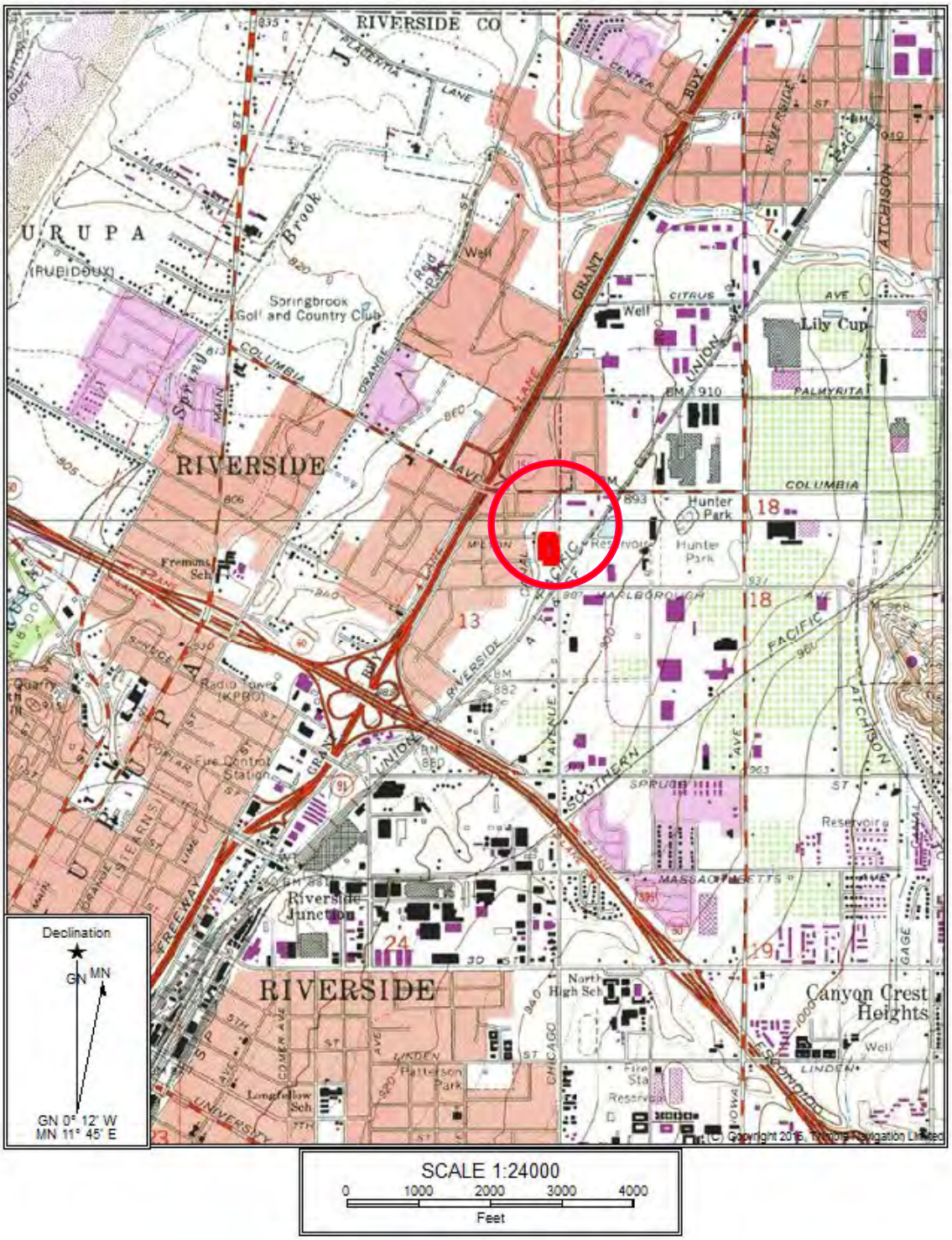
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

Page 5 **of** 5 ***Resource Name or #:** Hunter Substation

***Map Name:** Riverside East ***Scale:** 1:24,000 ***Date of Map:** 1980



*Required information

ATTACHMENT E

PERSONNEL QUALIFICATIONS

PATRICK MAXON, M.A., RPA

Director | Cultural Services

EDUCATION

1994/MA/Anthropology/
California State University, Fullerton
1987/BA/Psychology/Sociology
Towson State University, Towson, MD

VCS TEAM MEMBER SINCE 2017

CERTIFICATIONS/TRAINING

Riverside County Transportation and Land Management Agency Certified Archaeologist (No. 226)

California Energy Commission Cultural Resources Specialist (2001)

Registered Professional Archaeologist (National)/No. 11468/Register of Professional Archaeologists

Orange County Certified Archaeologist (1999)

National Historic Preservation Act Section 106 Compliance Advanced Certification, 2002

Principal Investigator, Southern California/Bureau of Land Management

ABOUT

Patrick Maxon M.A., RPA is a Registered Professional Archaeologist with more than 25 years of experience in all aspects of cultural resources management, including prehistoric and historic archaeology, paleontology, ethnography, and tribal consultation. He has expertise in compliance with NEPA, CEQA, the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act, and the Clean Water Act, among others. Patrick has completed hundreds of cultural resources projects throughout Southern California and in Arizona and Nevada that have involved (1) agency, client, Native American, and subcontractor coordination and consultation; (2) treatment plans and research design development; (3) archival research; (4) field reconnaissance; (5) site testing; (6) data recovery excavation; (7) construction monitoring; (8) site recordation; (9) site protection/preservation; (10) mapping/cartography; (11) laboratory analysis; and (12) report production. He has managed projects within the jurisdiction of the USACE, the Bureau of Land Management, the Bureau of Reclamation, and other federal agencies that require compliance with Section 106 of the NHPA. He has also completed projects throughout Southern California under CEQA for State and local governments and municipalities, including Caltrans, the Department of General Services (DGS), the California Energy Commission, the California Department of Water Resources, the Los Angeles County Department of Public Works (LACDPW), the Los Angeles Department of Water and Power, the Los Angeles Unified School District, and others. Patrick meets the Secretary of Interior's standards for historic preservation programs for archaeology and is a Certified Archaeologist in Orange County and for the Riverside County Transportation and Land Management Agency.

SELECT EXPERIENCE/PROJECTS

Godinho Dairy Project Phase I Cultural Resources Assessment, Eastvale, California. Mr. Maxon was the Cultural Resources Project Manager for the Godhino Dairy Project located in the City of Eastvale. He conducted a Phase I cultural resources study for the project, which included cultural and paleontological resources literature reviews, Native American scoping, and a pedestrian field survey of the project site. The site contains the extant remains of the Godinho Dairy which dates to at least the early 1960s. Three prehistoric archaeological sites are recorded within one mile of the project site; one (CA-RIV-2801) was recorded just a few hundred feet to the southeast. The Santa Ana River was used extensively by prehistoric populations of the area. Paleontologically sensitive Older Quaternary Alluvium likely lies at depth on the project site. No significant archeological resources were discovered on the project site during the survey. The extant Godinho Dairy complex appears to exceed 50 years of age and its recordation and evaluation as a historic resource was recommended. The proposed project would allow for development of the dairy property into a residential neighborhood.

La Rivera Drainage Project Cultural Resources Services, Riverside, California. Mr. Maxon served as the Cultural Resources Project Manager for the La Rivera Drainage Project located in the City of Riverside. The Phase I cultural resources study included (1) a cultural resources literature review of the project site at the Eastern Information Center (EIC) at the University of California, Riverside; (2) contact with the Native American Heritage Commission (NAHC) for a review of its Sacred Lands File and to

Qualified Archaeologist-Secretary of Interior Standards and Guidelines of Professional Qualification & Standards for Archeology, as per Title 36, Code of Federal Regulations, Part 61/

PROFESSIONAL AFFILIATIONS

Pacific Coast Archaeological Society

Society for California Archaeology

Society for American Archaeology

Association of Environmental Professionals (OCAEP Board member since 2005)

obtain a list of Native American contacts for the project area; (3) preparation of informational letters to all the NAHC-listed contacts in order to ensure a good-faith effort of participation and (4) conducted a paleontological resources literature review for the project at the Natural History Museum of Los Angeles County (NHMLA). No cultural resources were discovered and no impacts are anticipated. The project proposed to improve existing drainage conditions within the La Rivera residential development and BonTerra Consulting prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for its implementation.

Riverside Energy Resource Center Archaeological and Paleontological, and Biological Services, Riverside County. Mr. Maxon served as the Program Director for the archaeological, paleontological, and biological services at the Riverside Energy Resource Center in Riverside County. He managed all aspects of the archaeological, paleontological, historic, and biological surveys of the power plant site and its associated transmission lines and pipelines; he also coordinated monitoring the power plant site and its associated facilities. Mr. Maxon maintained client contacts, coordinated with the California Energy Commission, and communicated with the Riverside public utilities. In addition, he conducted cultural resources surveys and monitoring, completed the cultural resources survey report, and wrote monthly cultural resources monitoring reports and a final project report.

Biological and Cultural Resources Surveys, Jurisdictional Delineations, Track Upgrade from Thermal to Araz. Mr. Maxon was the Cultural Resources Project Manager for the Biological and Cultural Resources Surveys, Jurisdictional Delineations, and Track Upgrade from Thermal to Araz. The project began by consulting and coordinating with local, State, and/or federal agencies (as appropriate); the State Historic Preservation Officer (SHPO); the Union Pacific Railroad (UPRR); and other relevant agencies to develop a Programmatic Memorandum of Agreement (MOA) to consider the cultural resources associated with the project. Mr. Maxon and his crew conducted an intensive 100 percent pedestrian cultural resources survey of the area of potential effect (APE) in transects. Initial Native American consultation and bridge and culvert recordation were provided. There are approximately 609 structures (bridges and culverts) in the project area, of which 512 were built between 1903 and 1960 and are considered historic. An Architectural Historian visited each structure and produced a Primary Record (DPR 523A) and a Location Map (DPR523J).

Desert Ranch Project Cultural Survey, Riverside County. Mr. Maxon served as the Project Manager for the Desert Ranch Project, which consists of approximately seven square miles of desert overlooking the Salton Sea. He helped to provide a Phase I Cultural Resource Inventory for the Client, which entailed a walk of the entire property to survey for archaeological sites. Over 40 sites were recorded and excavation of several is anticipated. In addition to conducting surveys, Mr. Maxon met with the local Indian tribe, the Torres-Martinez Band of Cahuilla Indians, regarding this project.

Lake Elsinore East Lake Specific Plan Amendment Area Cultural Resources Services, City of Lake Elsinore. Mr. Maxon was the Project Manager of the Lake Elsinore East Lake Specific Plan Amendment Area. He was responsible for the assessment of known cultural resources and preparation of final report.

Encino Water Quality Improvement Program Archaeological Monitoring, Encino. As the Project Manager for the Encino Water Quality Improvement Program, Mr. Maxon monitored excavations for pipelines.

30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, CA 92675
949.489.2700 | vcsenvironmental.com

Stone Canyon Water Quality Improvement Project Prehistoric Cultural and Biological Resources Investigation and Monitoring, City of Los Angeles. Mr. Maxon was the Project Manager for the Stone Canyon Water Quality Improvement Project in Los Angeles County and was responsible for reconnaissance and report preparation.

Salton Sea Solar Evaporation Pond Pilot Project Archaeological Survey, Imperial County. Mr. Maxon was the Project Manager of the Salton Sea Solar Evaporation Pond Pilot Project. He conducted a field reconnaissance and produced a final report.

East Branch Extension Phase II Water Pipeline Project, Mentone. Mr. Maxon was the Cultural Resources Manager for the East Branch Extension Phase II Water Pipeline Project. The project involved the preparation of all CEQA/NEPA environmental documents, the acquisition of regulatory permits, and construction monitoring. Mr. Maxon was responsible for a full range of cultural resources services including historic, prehistoric and paleontological archival research, field surveys, evaluation of resources, and report preparation 6th Street Viaduct Project, Los Angeles. As Cultural Resources Project Manager, Mr. Maxon was responsible for coordinating with the California Department of Transportation's (Caltrans's) District 7 on the previously submitted draft Archaeological Survey Report (ASR) and the project's Area of Potential Effects (AEP) and completing the ASR and Environmentally Sensitive Area (ESA) Action Plan, which included several revisions, for the proposed project. The ESA Action Plan was developed to protect an archaeological site that was recorded within the AEP. The plan entails surrounding the site with fencing during construction and monitoring of construction in the vicinity of the site.

Saddleback Meadows Development Archaeological Test Excavations, Orange County. Mr. Maxon was the Program Director of archaeological test excavations for the Saddleback Meadows Development Project. He performed test excavations of ten prehistoric archaeological sites and developed a treatment plan and research design in compliance with Section 106 of the NHPA for two sites (CA-ORA-710 and CA-ORA-711). Mr. Maxon conducted test excavations on two additional sites (CA-ORA-1435H and CA-ORA-1437), a data recovery excavation (CA-ORA-711), and laboratory and report preparation. Additionally, he developed a testing plan to evaluate two prehistoric sites (CA-ORA-713 and CA-ORA-715), managed the excavation of those sites, and maintained budgets and relations with the client (TPG Management) and the USACE.

Orange County Water District On-Call Environmental Analyses Services, Orange County, CA: Cultural Resources Manager for the On-Call Contract. Mr. Maxon has provided environmental analyses services on an as-needed basis as part of on-call contracts with the Orange County Water District since 2010. Representative cultural resources task orders completed as part of the on-call contracts, include the following:

- La Palma Recharge Basin, Anaheim, CA
- Prado Basin Mitigation Sites, Orange County, CA
- Fletcher Basin Improvement Project Cultural and Paleontological Resources Mitigation Monitoring Plan, City of Orange, CA
- Centennial Park Injection Well Project, Santa Ana, CA
- EW-1 Groundwater Containment and Treatment Project, City of Fullerton, CA.
- Santiago Recharge Basin Project, Orange, CA

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APPENDIX D

Noise Technical Report

HUNTER SUBSTATION PROJECT
CITY OF RIVERSIDE, CALIFORNIA

Noise and Vibration Impact Study Technical Report

Prepared for
TRC Companies
17911 Von Karman Ave., Suite 400
Irvine, CA 92614

January 2020

ESA

HUNTER SUBSTATION PROJECT
CITY OF RIVERSIDE, CALIFORNIA

Noise and Vibration Impact Study Technical Report

Prepared for
TRC Companies
17911 Von Karman Ave., Suite 400
Irvine, CA 92614

January 2020

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Hunter Substation Project Noise and Vibration Impact Study Technical Report

HUNTER SUBSTATION PROJECT

Noise and Vibration Impact Study

Executive Summary

The City of Riverside is proposing to replace an existing substation facility with a new facility. The Proposed Project will replace the existing Hunter Substation with a new 69/12kV electrical substation (new or proposed Hunter Substation) to be located on an immediately adjacent vacant parcel. The existing Hunter Substation is located on the east side of Riverside Canal and on the west side of Chicago Avenue, between Milton Street and Blenheim Street, in the City of Riverside, California (City).

The purpose of this Noise and Vibration Impact Study is to assess and discuss the impacts of potential noise and vibration impacts that may occur with the implementation of the proposed project. The analysis describes the existing noise environment in the project area, estimates future onsite operational noise levels at the nearest noise-sensitive receptors in the vicinity of the project site, and identifies the potential for significant noise and vibration impacts.

Impacts would be less than significant.

HUNTER SUBSTATION PROJECT

Noise and Vibration Impact Study

1.0 Introduction

This Noise and Vibration Impact Study is prepared by ESA to support a proposal for the City of Riverside to replace an existing substation facility with a new facility, in the City of Riverside, California.

The main noise and vibration source in a substation is the transformer. The main cause of transformer noise is the Magnetostriction Effect, which is caused by a piece of magnetic sheet steel to extend itself when magnetized. This is where the dimensions of ferromagnetic materials change upon contact with a magnetic field. The alternation current that flows through an electrical transformer's coils has a magnetic effect on its iron core. It causes the core to expand and contract, resulting in a humming sound. However, they are sufficient to cause a vibration, and consequently noise. Applying voltage to a transformer produces a magnetic flux, or magnetic lines of force in the core.

The project-specific analysis provided in this report assesses whether the implementation of the proposed project would have potentially significant noise impacts on the existing residential uses adjacent to the project site.

1.1 Project Location

The existing 69/12 kilovolt (kV) Hunter Electrical Substation (existing Hunter Substation) is located at 1731 Marlborough Avenue, near the intersection of Marlborough Avenue and Chicago Avenue, south of Columbia Avenue in the City of Riverside, California (refer to **Figure 1**, Project Vicinity Map and **Figure 2**, Project Location Map, all figures in **Appendix A**). The Project includes the existing substation site (APN 210-060-049), as well as the adjacent parcel (APN 210-060-033), which is also owned by the City of Riverside. The existing substation and the new substation areas (collectively referred to as the "Project Site") comprise approximately 2.5-acres of land located within an urban area.

1.2 Existing Conditions

The western parcel of the Project Site (APN 210-060-033) is currently undeveloped. The Project Site is bordered by Chicago Avenue to the east with a railroad yard railroad right-of-way beyond, a concrete storm water drainage channel to the west with a residential neighborhood beyond, and commercial/industrial building developments to the north and south.

Both parcels that consist the Project Site are zoned for Industrial (I), as are the adjacent parcels to the north, south, and east (across Chicago Avenue). The parcels to the west (across the water channel ROW), are zoned as Residential (R-1-7000).

1.3 Project Overview

The Proposed Project will replace the existing Hunter Substation with a new 69/12kV electrical substation (new or proposed Hunter Substation) to be located on an immediately adjacent vacant parcel (refer to **Figure 3**, Project Overview Map). Specifically, the Proposed Project will include the following main components:

1. Construction of a new 69/12kV Hunter Substation on previously disturbed land adjacent to and west of the existing Hunter substation;
2. Loop-in (i.e., connection to) four existing 69kV sub-transmission lines and ten existing 12kV distribution lines to the new substation;
3. Decommissioning and removal of the existing substation; and
4. Construct and operate a warehouse facility that will store equipment and materials used by RPU for operation and maintenance of the RPU electrical grid system.

Electrical substations are built and operated to convert electrical power (or electricity) from higher to lower voltages. Higher voltage electric power lines, typically referred to as *transmission or sub-transmission lines*[1], are used to transmit (or transport) electrical power over large distances, typically between where the power is created (i.e., power plant, photovoltaic solar array, wind turbine, etc.) and where it will be distributed for end use (i.e., cities or other developed areas where large groups of customers are located). Transmission lines are broadly defined as having voltage ratings above 100 kV and sub-transmission lines are defined as having voltage rating between 35 kV to 100 kV. Lower voltage electrical power lines, typically referred to as *distribution lines*, convey power from the electric substations to the individual customers (e.g., homes, businesses, etc.). Electric distribution lines are typically defined as having voltages below 35kV, but most distribution lines in California are operated in the immediate range of +/- 12kV.

The existing Hunter Substation is a 69/12kV *distribution substation*[2] because it converts electricity from 69kV to 12kV. The Hunter Substation therefore intakes the higher voltage power from the greater RPU *Electric Grid*[3], and converts it to lower voltage for use by customers in the electric load area.

1 *Transmission lines* are high voltage electric power lines that are utilized to transfer electricity large amounts of electricity over long distances.

2 *Distribution substations* are defined as any substation that is connected to one or more distributions lines.

3 The *Electric Grid*, or *Grid* for short, refers to the full system electrical transmission and distribution system, including generation, energy storage, energy transmission (i.e., transmission lines), and distribution (i.e., distribution lines).

1.4 Project Description

This section provides a detailed description of the existing and proposed project components, including the design, ratings, location, and physical size (all as applicable for each project component).

1.4.1 Existing Hunter Substation and Electrical System

The existing Hunter Substation is a 69/12kV distribution, *air insulated substation*[4] (AIS) approximately one acre in size (fenced area). The existing Hunter Substation was construction in approximately 1960 and has been operated continuously since then by RPU. RPU has made upgrades and incrementally increased the capacity of the substation since its initial construction. The existing Hunter Substation includes the following key features and equipment:

- (4) Four 69kV Sub-transmission Lines
- (8) Eight 69kV Circuit Breakers
- (2) Two 69kV-4.36kV Power Transformers
- (4) Four 69kV-12kV Power Transformers
- (2) Two 4kV Switchgears
- (4) Four 12kV Switchgears
- (1) One 15kV, 2 Stages of 3000kV Capacitor Bank

Access to the existing Hunter Substation is from the east (access directly to Chicago Avenue) and from the north where a substation gate is located at the end of an approximately 150-foot paved driveway that leads from Chicago Avenue to the gate that served as the pervious access to the eastern parcel (refer to **Figure 4**, Existing Site Layout Map).

1.4.2 Proposed New Hunter Substation

The proposed new Hunter 69/12kV distribution substation will be an AIS with four bays and a breaker-and-a-half configuration. and the new Hunter Substation will be constructed on an undeveloped parcel immediately adjacent to the existing Hunter Substation. However, some features of the new substation may ultimately be located on the existing substation site. Key features of the proposed new Hunter Substation, including site layout and arrangement, key equipment specifications and ratings are discussed in the following sub-sections.

[4] Electric substations require an insulating substrate to insulate certain energized portions of the substation. The most common method is to use the existing atmosphere, or air, for this insulating substrate. Therefore, these substations are referred to as *air insulated substations*, or AIS.

2.0 Noise Impact Study

2.1 Fundamentals of Noise

2.1.1 Noise Principles and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions, or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. Acoustics addresses primarily the propagation and control of sound.[5]

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.[6]

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude, with audible frequencies of the sound spectrum ranging from 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.[7] The typical human ear is not equally sensitive to this frequency range. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering, or weighting, is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements.[8] Some representative common outdoor and indoor noise sources and their corresponding A-weighted noise levels are shown in **Figure 5**, *Decibel Scale and Common Noise Sources*.

2.1.2 Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time; a noise level is a measure of noise at a given instant in time, as presented Figure 3. However, noise levels rarely persist at one level over a long period of time. Rather, community noise varies continuously over

5 M. David Egan, *Architectural Acoustics*, Chapter 1, 1988.
6 M. David Egan, *Architectural Acoustics*, Chapter 1, 1988.
7 M. David Egan, *Architectural Acoustics*, Chapter 1, 1988.
8 M. David Egan, *Architectural Acoustics*, Chapter 1, 1988.

a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many of the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.[9]

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the noise exposure to be measured over periods of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. The following noise descriptors are used to characterize environmental noise levels over time, which are applicable to the project.[10]

L_{eq}: The equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.

L_{dn}: The average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account nighttime noise sensitivity. The L_{dn} is also termed the day-night average noise level (DNL).

CNEL: The Community Noise Equivalent Level (CNEL) is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dB to measured noise levels between the hours of 7:00 a.m. to 10:00 p.m. and after an addition of 10 dB to noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. CNEL and L_{dn} are close to each other, with CNEL being more stringent and generally 1 dB higher than L_{dn}.

2.1.3 Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance, or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance);
- Interference effects (e.g., communication, sleep, and learning interference);
- Physiological effects (e.g., startle response); and
- Physical effects (e.g., hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are

9 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.2.1, September, 2013.
10 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.2.2, September, 2013.

related to subjective effects and interference with activities. Interference effects interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep.[11]

With regard to the subjective effects, the responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:[12]

- Except in carefully controlled laboratory experiments, a change of 1 dBA in ambient noise levels cannot be perceived;
- Outside of the laboratory, a 3 dBA change in ambient noise levels is considered to be a barely perceivable difference;
- A change in ambient noise levels of 5 dBA is considered to be a readily perceivable difference; and
- A change in ambient noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel scale. The human ear perceives sound in a non-linear fashion; therefore, the dBA scale was developed. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Three sources of equal loudness together produce a sound level of approximately 5 dBA louder than one source, and 10 sources of equal loudness together produce a sound level of approximately 10 dBA louder than the single source.[13]

11 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.1, September 2013.
12 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.1, September 2013.
13 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.1.1, September 2013.

2.1.4 Noise Attenuation

When noise propagates over a distance, the noise level reduces with distance depending on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to as "spherical spreading." Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (i.e., reduce) at a rate between 6 dBA for acoustically "hard" sites and 7.5 dBA for "soft" sites for each doubling of distance from the reference measurement, as their energy is continuously spread out over a spherical surface (e.g., for hard surfaces, 80 dBA at 50 feet attenuates to 74 at 100 feet, 68 dBA at 200 feet, etc.). Hard sites are those with a reflective surface between the source and the receiver, such as asphalt, or concrete, surfaces, or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, which in addition to geometric spreading, provides an excess ground attenuation value of 1.5 dBA (per doubling distance).[14]

Roadways and highways consist of several localized noise sources on a defined path, and hence are treated as "line" sources, which approximate the effect of several point sources. Noise from a line source propagates over a cylindrical surface, often referred to as "cylindrical spreading."[15] Line sources (e.g., traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.[16] Therefore, noise due to a line source attenuates less with distance than that of a point source with increased distance.

Additionally, receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Atmospheric temperature inversion (i.e., increasing temperature with elevation) can increase sound levels at long distances (e.g., more than 500 feet). Other factors such as air temperature, humidity, and turbulence can also have significant effects on noise levels.[17]

2.2 Existing Conditions

Some land uses are considered more sensitive to ambient noise levels than others are, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residential areas are considered to be the most sensitive type of land use to noise and industrial/commercial areas are considered to be the least sensitive. Existing noise sensitive uses on the project site and in the immediate vicinity include:

- On-site: existing substation facility;
- To the north: commercial building; 100 feet

14 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.2, September 2013.
15 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.1, September 2013
16 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.1, September 2013.
17 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.3, September 2013.

- To the south: commercial building; 50 feet
- To the west: Riverside Canal, then residences along the west side of the canal; 130 to 390 feet
- To the east: Chicago Avenue is located along the project's eastern boundary;

2.3 Regulatory Setting

A number of statutes, regulations, plans, and policies that address noise concerns have been adopted. Below is a discussion of the relevant regulatory setting and noise regulations, plans, and policies.

2.3.1 State

California Code of Regulations (CCR) Title 24 establishes the California Building Code (CBC). The most recent building standard adopted by the legislature and used throughout the state is the 2016 version, which took effect on January 1, 2017. The State of California's noise insulation standards are codified in the CBC (Title 24, Part 2, Chapter 12). These noise standards are for new construction in California for the purposes of interior compatibility with exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residences, schools, or hospitals, are near major transportation noises, and where such noise sources create an exterior noise level of 60 dBA CNEL, or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

2.3.2 Local

The proposed project is located within the City of Riverside. Applicable City of Riverside noise standards and policies are described below.

2.3.3 City of Riverside

Noise Element of the General Plan. The objectives and policies of this noise element are aimed at protecting the citizens of Riverside from excessive noise levels that interfere with daily routine and comfort. Applicable policies are summarized below:

- Policy N-1.1: Continue to enforce noise abatement and control measures particularly within residential neighborhoods.
- Policy N-1.2: Require the inclusion of noise-reducing design features in development consistent with standards in Figure N-10 (Noise/Land Use Compatibility Criteria), Title 24 California Code of Regulations and Title 7 of the Municipal Code.
- Policy N-1.3: Enforce the City of Riverside Noise Control Code to ensure that stationary noise and noise emanating from construction activities, private developments/residences and special events are minimized.
- Policy N-1.4: Incorporate noise considerations into the site plan review process, particularly with regard to parking and loading areas, ingress/egress points and refuse collection areas.

- Policy N-1.5: Avoid locating noise-sensitive land uses in existing and anticipated noise-impacted areas.
- Policy N-1.6: Educate the public about City noise regulations.
- Policy N-1.7: Evaluate noise impacts from roadway improvement projects by using the City's Acoustical Assessment Procedure.
- Policy N-8: Continue to consider noise concerns in evaluating all proposed development decisions and roadway projects.

Municipal Code. It is stated in the City's Municipal Code, Title 7, Noise Control, that

It is stated in the City's Municipal Code that all construction, maintenance, or demolition activities within the City's boundary shall be limited to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and 8:00 am to 5:00 pm on Saturday. No construction work is permitted on Sundays and federal holidays.

In Section 7.25, maximum allowable exterior noise levels in residential areas are set at 45 dBA between 10:00 p.m. and 7:00 a.m. and at 55 dBA between 7:00 a.m. and 10 p.m. Section 7.25 further states that unless a variance has been granted, it shall be unlawful for any person to cause or allow the creation of any noise which exceeds the following:

- The exterior noise standard of the applicable land use category, up to 5 decibels, for a cumulative period of more than 30 minutes in any one hour; or
- The exterior noise standard of the applicable land use category, plus 5 dBA for a cumulative period of more than 15 minutes in any one hour; or
- The exterior noise standard of the applicable land use category, plus 10 dBA for a cumulative period of more than 5 minutes in any one hour; or
- The exterior noise standard of the applicable land use category, plus 15 dBA for a cumulative period of more than 1 minutes in any one hour; or
- The exterior noise standard, plus 20 dBA, or the maximum measured ambient noise level, for any period of time.

If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Maximum exterior noise standard for office/commercial, industrial, community support, public recreation facility, and nonurban land uses are 65, 70, 60, 65, and 70 dBA, respectively, at any time.

Maximum allowable interior noise levels for residential uses are set at 35 dBA between 10:00 p.m. and 7:00 a.m., and at 45 dBA between 7:00 a.m. and 10:00 p.m. Maximum allowable

interior noise standard for school (7 a.m. to 10 p.m. while school is in session) and hospital (any time) is both 45 dBA.

For planning purposes, the 24-hour average sound levels (CNEL) are roughly equivalent to Leq measurements plus 5 dBA when traffic is the dominant noise source (Office of Noise Control, 1976:21).

2.4 Significance Thresholds

Pursuant to Appendix G of the State *CEQA Guidelines*, the project would result in a significant impact related to noise and vibration if it would expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2.5. Methodology

During operation of the project site, noise levels would be generated from onsite stationary noise sources such as transformers. The noise levels generated by these stationary noise sources are assessed in this study with the Federal Highway Administration (FHWA) approved equipment source noise level guidelines,

2.6. Environmental Impacts

The project would not result in the exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant Impact)

2.6.1 Project Construction

This section includes an overview of the typical methods, equipment, and work force that would be used for construction of the Proposed Project. Construction of the Proposed Project will be conducted by a construction contractor under contract to RPU and is anticipated to take approximately 17 months total to complete. Construction is currently anticipated to begin in mid-2021 and be completed by the end of 2022. Unless otherwise noted, construction activities are anticipated to occur between the hours of 7am and 7pm, Monday through Friday, consistent with the City of Riverside Noise Ordinance. If construction is required on one of more Saturdays, construction activities will be limited to the hours between 8am and 5pm, also consistent with the Noise Ordinance.

Construction Phasing

Construction of the Proposed Project will occur in distinct phasing, in order to complete the Hunter Substation replacement without loss of electric service. Because the Hunter Substation is a distribution substation, it feeds thousands of end users. Therefore, the new Hunter Substation will be constructed adjacent to the existing substation, while the existing substation remains in service. The existing substation will not be de-energized until the new substation is ready to be energized. **Table 2.1** below outlines the general construction phasing.

TABLE 2.1
CONSTRUCTION PHASING

Construction Phase [a]	Description	Approximate Duration
1	Mobilization	3 days
2	Material Delivery and Inventory	1 month [b]
3a	Grading and Site Preparation - Western Parcel	2 weeks
3b	Temporary relocation of Sub-transmission Line 3 and distribution Circuit 1222.	2 weeks
4a	Civil Survey and Marking	2 days
4b	Below-Grade Civil Construction for the new Hunter Substation (Western parcel)	2 months
4c	Electrical Below-Grade Construction for the new Hunter Substation (Western Parcel)	1 month
5	Underground Distribution Getaways.	2 months
6a	Above-grade (structural) construction for the new Hunter Substation. (western parcel)	2 months
6b	Above-grade (Electrical) construction for the new Hunter Substation (Western Parcel)	2 months
7	Sub-transmission getaways (overhead).	2 weeks
8	Substation testing, energization, and cutover	3 days
9	Demolition and Salvage of the old Hunter Substation (eastern parcel)	2 months
10	Grading and site preparation (eastern parcel)	1 week
11	Below grade construction for the storage facility (eastern parcel)	2 months
12	Above grade construction for the storage facility (eastern parcel)	2 months

NOTES:

[a] While construction phases will occur generally in the order listed, some overlap will occur. The total duration of construction is anticipated to be approximately 17 months.

[b] Construction Phase 2a (material delivery and inventory) will occur simultaneously with phases 2b and 2c. 2b and 2c will occur in succession.

Grading and site development activities would include the following:

- Demolition and/or removal of the buildings, foundations, vegetation, and any other miscellaneous structures located on the western parcel,
- Construct temporary relocation of sub-transmission Line 3 and distribution Circuit 1222 (Phase 3b),
- Grading of the new substation site (western parcel) (Phase 3a),
- Demolition of the existing substation western wall,
- Extension of the northern driveway into the western parcel, and
- Construction of the new CMU substation security wall.

Typical construction work forces for grading and site preparation will be relatively small given the small size of the western parcel. The typical workforce will vary between 5 and 15 workers, with an average of 8 workers on site during these phases. Typical construction work forces for the above

grade construction will be the largest workforce for the Proposed Project. The typical workforce can vary between 8 and 20 workers, with an average of 15 workers on site during this phase.

Site preparation and grading activities will typically include the following construction equipment[18]:

- Dozer, Grader, Scraper, Jack hammer, Compactor, Work trucks, Haul/dump trucks, and Water trucks.

In addition, the temporary relocation of sub-transmission Line 4 and distribution Circuit 1222 will require the following equipment:

- Bucket truck, Drill rig, Work trucks, and Truck-mounted crane.

Below grade construction activities will typically include the following construction equipment:

- Excavator, Backhoe, Cement truck, Work trucks, Haul/dump trucks, and Water trucks.

Above grade construction activities will typically include the following construction equipment:

- Bucket truck or manlift, Line truck, Large Crane, Stringing rig, Cable reel trailer, Relay/ Telecommunication/ Wiring Van, SF_6 gas cart (electric), Portable generator, 100-hp Oil Processing Truck, Work trucks, and Water trucks.

Final substation wiring, testing, and energization activities will typically include the following construction equipment:

- Relay/ Telecommunication/ Wiring Van, Wire truck, Line truck, Bucket truck, and Work trucks.

The sub-transmission line getaways will be constructed using the following construction equipment:

- Stringing rig, Cable reel trailer, Drill rig, Truck-mounted crane, Wire truck, Line truck, Bucket truck, and Work trucks.

The distribution line getaways will be constructed using the following construction equipment:

- Puller/ tensioner, Cable reel trailer, backhoe, Truck-mounted crane, Concrete truck, Hauling/dump truck, Water truck, and Work trucks.

The sub-transmission line getaways will be constructed using the following construction equipment:

- Jackhammer, Flatbed truck, Crane or truck-mounted crane, Line trucks, Excavator, Hauling/dump trucks, Water truck, and Work trucks.

[18] Not all equipment would necessarily be needed, and not all equipment would be used simultaneously.

Typical Construction Equipment

Noise levels from on-site construction activities for the proposed project may range up to 62 dBA L_{max} at the closest residential uses in the vicinity of the project site and up to 89 dBA L_{max} at the closest commercial uses adjacent to the project site for very limited times when construction occurs near the project's boundary.

Short-term noise impacts would be associated with demolition, excavation, grading, paving, and underground construction during construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today but would no longer occur once conversion of the project is completed.

Construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise-exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 87 dBA L_{max}), the effect on longer-term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during site preparation and onsite construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. **Table 2.2** lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor, taken from the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) (FHWA 2006).

TABLE 2.2
RCNM DEFAULT NOISE EMISSION REFERENCE LEVELS AND USAGE FACTORS

Equipment Description	Impact Device?	Acoustical Usage Factor	Spec. 721.560 L_{max} at 50 Ft (dBA, slow)	Actual Measured L_{max} at 50 Ft (dBA, slow)	Number of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	N/A	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	N/A	0
Blasting	Yes	N/A	94	N/A	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4

TABLE 2.2
RCNM DEFAULT NOISE EMISSION REFERENCE LEVELS AND USAGE FACTORS

Equipment Description	Impact Device?	Acoustical Usage Factor	Spec. 721.560 L_{max} at 50 Ft (dBA, slow)	Actual Measured L_{max} at 50 Ft (dBA, slow)	Number of Actual Data Samples (Count)
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	N/A	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (< 25 kVA, VMS Signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	N/A	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydraulic Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	N/A	0
Impact Derive	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarifier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/Chipping Gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (single nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12

TABLE 2.2
RCNM DEFAULT NOISE EMISSION REFERENCE LEVELS AND USAGE FACTORS

Equipment Description	Impact Device?	Acoustical Usage Factor	Spec. 721.560 L_{max} at 50 Ft (dBA, slow)	Actual Measured L_{max} at 50 Ft (dBA, slow)	Number of Actual Data Samples (Count)
Sheers (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trench Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	N/A	0
Tractor	No	40	84	N/A	0
Vacuum Excavator (Vac-Truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

SOURCE: Federal Highway Administration. Table 9.1, *Highway Construction Noise Handbook* (2006).

dBA = A-weighted decibels
ft = feet/foot
ft-lb/blow = foot-pounds per blow
HP = horsepower
N/A = not applicable
RCNM = Roadway Construction Noise Model

Construction of the proposed project is expected to require the use of various equipment that would be used on the project site. Based on the information in **Table 2.2**, the maximum noise level generated by each piece of equipment that could be used on the proposed project site is shown below:

- **Bulldozer:** 82 dBA L_{max} at 50 ft
- **Water and Pickup Trucks:** 75 dBA L_{max} at 50 ft
- **Concrete Pump Truck:** 81 dBA L_{max} at 50 ft
- **Excavators:** 81 dBA L_{max} at 50 ft
- **Jaw Crushers:** 72 to 81 dBA L_{max} at 50 ft
- **Concrete Mix Truck:** 79 dBA L_{max} at 50 ft
- **Front End Loader:** 79 dBA L_{max} at 50 ft
- **Backhoe:** 78 dBA L_{max} at 50 ft
- **Forklift:** 75 dBA L_{max} at 50 ft
- **Grader**: 85 dBA L_{max} at 50 ft
- **Scraper**: 84 dBA L_{max} at 50 ft

- **Jack hammer**: 89 dBA L_{max} at 50 ft
- **Compactor**: 83 dBA L_{max} at 50 ft
- **Drill rig**: 79 dBA L_{max} at 50 ft
- **Truck-mounted crane**: 75 dBA L_{max} at 50 ft
- **Large Crane**: 81 dBA L_{max} at 50 ft
- **Stringing rig**: 79 dBA L_{max} at 50 ft
- **Portable generator**: 73 dBA L_{max} at 50 ft
- **Puller/ tensioner**: 75 dBA L_{max} at 50 ft

The site preparation phase tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, and front loaders. Earthmoving and compacting equipment include compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings. While the operating cycles may involve 1 or 2 minutes of full power operation (generating the maximum sound levels identified in **Table 2.2**), the equipment would be moving around and would not stay at a specific location for the entire cycle. Therefore, adjacent receivers would be exposed to the maximum noise level intermittently rather than continuously. Demolition of on-site facility would use less heavy-duty construction equipment and, therefore, would result in lower construction noise impacts.

Site preparation and grading activities will typically include the following construction equipment: Dozer (82 dBA at 50 ft), Grader (85 dBA), Scraper (84 dBA), Jack hammer (89 dBA), Compactor (83 dBA), Work trucks (75 dBA), Haul/dump trucks (79 dBA), and Water trucks (75 dBA).

It is anticipated that up to six pieces of equipment would be in operation on the project site at the same time. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be (79 + 82 + 83 + 84 + 85 + 89=) 93 dBA L_{max} at a distance of 50 ft from the active construction area.

Existing residential uses are located to the west (across Riverside Canal), 130 ft (-8 dBA relative to the noise level at 50 ft) to 390 ft (-18 dBA), from the project site boundary. Commercial uses are located to the north and south of the project site, 59 ft (-1 dBA) to 100 ft (-6 dBA), from the project construction area.

As stated previously, sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad

operations, the sound decreases 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases 4.5 dBA for each doubling of distance.

Construction on the project site would expose the nearest noise-sensitive uses in the project vicinity to noise levels reaching 75 to 85 dBA L_{max} for the existing residences to the west in the project vicinity. Similarly, the existing commercial buildings in the project vicinity would be exposed to construction activity noise from the project site that vary from 87 to 92 dBA L_{max}.

During other construction phases, noise associated with on-site activity would be lower than those during the grading period.

The City's Municipal Code noise ordinance has not established any upper limits for construction noise because it is temporary and will cease to occur after completion of the project construction. The Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. It is stated in the City's Municipal Code that all construction, maintenance, or demolition activities within the City's boundary shall be limited to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and 8:00 am to 5:00 pm on Saturday. No construction work is permitted on Sundays and federal holidays.

Project Design Features for Noise Abatement

The following Project Design Features measures apply to the proposed project and will help to reduce and avoid potential impacts related to noise:

PDF 2-1: **Control of Construction Hours.** Construction activities occurring as part of the project shall be subject to the limitations and requirements of the City of Riverside (City) Municipal Code which states that construction activities may occur between 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and between 8:00 a.m. and 5:00 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative.

PDF 2-2: Prior to issuance of grading permits, the City/project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities have been achieved.

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturers' standards.
- Construction staging areas shall be located away from off-site sensitive uses during project construction.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.

PDF 2.3 During installation and mounting, implement the following to minimize audible humming:

- **Mount the Unit on a Solid Surface**
  Thin curtain walls or plywood surfaces will amplify transformer noise, so units should be mounted on dense, heavy surfaces such as reinforced concrete walls or floors. For the best results, mounting surfaces should weigh 10 times as much as the unit itself.
- **Tighten the Bolts on Enclosures**
  Check if the bolts and screws on the transformer's cover and top have been properly tightened. Loose parts will vibrate when the transformer is running and add to the existing sound. Lifting eyebolts can also increase the noise, so make sure to remove any that were used during installation.
- **Use Acoustical Dampening Material**
  You can reduce some of the noise generated by an electrical transformer by using materials that prevent the sound from spreading. Covering the walls of the transformer room with absorbent materials such as kimsul, acoustical tile or fiberglass may help keep the noise contained.
- **Use Oil Barriers or Cushion Padding**
  Like sound dampening materials, oil barriers and cushion padding may also help insulate transformer noise and prevent it from spreading. These don't actually cut down the sound or vibration itself, but help cut down the irritation it causes among people in nearby areas.
- **Try Flexible Mounting Techniques**
  While installing electrical transformers on structural walls, columns, ceilings or frames, use external vibration dampeners along with flexible connections and mounting methods. This prevents metal contact between the mounting surface and the unit, to reduce noise transmission.
- **Follow the Manufacturer's Guidelines**
  As with other electrical materials, follow the instructions and guidelines provided by the manufacturer. For instance, if the design includes vibration dampeners between the case and core and coil assembly mounting, the mounting bolts for these need to be removed after installation.

PDF 2.4: Lowering the Transmission of Air-borne Noise

- In order to abate the transmission of the air-borne noise, it is customary to use the acoustic treatment of all surfaces (walls, ceiling, and floor) of the room housing the transformer by sound barriers and sound absorbing material. Moreover, soundproof doors should be used for that room.

2.6.2 Project Operations and Maintenance

This section describes the activities relating to operation and maintenance of the Proposed Project facilities; including the new Hunter Substation and the new Storage Facility. In reference to the new Hunter Substation, this section also includes a comparison to existing substation operation and maintenance activities.

Substation Operations

The proposed new Hunter Substation will be an unmanned substation. In general, routine substation operations will be commensurate with current operation and maintenance of the existing Hunter Substation. However, because the proposed Hunter Substation will be constructed with new parts and equipment, it will require less maintenance and repair when compared to the existing, aging Hunter Substation. The Proposed Hunter Substation will require a single pickup truck visiting the site a few times a week for switching, as well as several larger substation construction and maintenance trucks visiting the substation several times a year for substation equipment maintenance. Substation maintenance activities typically include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity and preventive maintenance. In general, routine substation maintenance is expected to necessitate approximately six trips per year by a two- to four-person crew at the Hunter Substation site. Routine substation operations will require one or two workers in a light utility truck to visit the substation on a weekly basis. Typically, a major maintenance inspection will take place annually, requiring approximately 10 personnel for approximately one week.

Routine maintenance for vegetation clearing/trimming would occur on an as-needed basis for purposes of safety, access, and aesthetics. Vegetation maintenance activities would typically involve the presence of one to two small maintenance vehicles and one or more employees to clear or trim vegetation to achieve the minimum working space around the substation facilities.

It is not anticipated that additional full-time RPU staff would be required for operation or maintenance purposes at the Proposed new Hunter Substation.

Storage Facility Operations

The Hunter Substation Storage facility will be unmanned, with deliveries and pick-ups occurring monthly, on average. Operation of the storage facility will not require the addition of new or otherwise additional staff or workers. No new infrastructure or water source will be required.

Noise Impact Analysis

Based on data provided in the brochure of Delta Transformers, the highest noise level from a transformer that ranges between 1.2 kV and 1.5 kV is 73 dBA, at a distance of 3 feet (or 1 meter). Therefore, at a distance of 50 feet, the transformer noise is reduced by 24 dBA to 49 dBA. A noise level at 100 ft is 6 dBA lower than the noise level at 50 ft. Noise level at 130 ft from the source is 8 dBA lower than the noise level at 50 ft. At a distance of 160 ft, the noise attenuation is 10 dBA. At a distance of 190 ft, the noise attenuation is 12 dBA. At a distance of 240 ft, the noise attenuation is 14 dBA. At 300 ft, the noise attenuation is 16 dBA. At 390 ft, the noise attenuation is 18 dBA.

Table 2.3 shows that maximum noise levels at the nearest sensitive receptors would be 55 dBA L_{max} or lower. This range of noise levels is lower than the 65 dBA L_{max} and 75 dBA L_{max} maximum noise levels not to be exceeded at any time during the nighttime hours and day time hours, respectively, specified in the City's Municipal Code and therefore would not result in any significant noise impact.

2.7 Mitigation Measures

Project Construction

With implementation of the Project Design Features, no mitigation measures would be necessary for the proposed project during construction.

Project Operations

No mitigation measures would be necessary for project operation.

2.8 Summary of Noise Impact Analysis Results

Operation of the project would not expose persons to, or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the implementation of the project design features. Therefore, operation noise impacts would be less than significant.

TABLE 2.3
SUMMARY OF PROJECT OPERATIONAL NOISE LEVEL

Equipment/Activity	Noise Level (dBA)			
	At 50 ft	Distance Attenuation	Intervening canal[1]	Maximum Noise Level
Residences across Riverside Canal to the Southwest (130 to 240 ft)				
One Transformer	49	8 – 14	0	41
Two Transformers	52	8 – 14	0	44
Four Transformers	55	8 – 14	0	47
Residences across Riverside Canal to the Northwest (160 to 190 ft)				
One Transformer	49	10 – 12	0	39
Two Transformers	52	10 – 12	0	42
Four Transformers	55	10 – 12	0	45
Commercial Building to the North (100 ft)				
One Transformer	49	6	0	43
Two Transformers	52	6	0	46
Four Transformers	55	6	0	49
Commercial Building to the South (50 ft)				
One Transformer	49	0	0	49
Two Transformers	52	0	0	52
Four Transformers	55	0	0	55

Source: ESA 2020

3.0 Vibration Impact Study

3.1 Fundamentals of Vibration

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. The motion may be discernible outdoors, but without the effects associated with the shaking of a building, there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, the rattling of items moving on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings that are radiating sound waves. However, building damage is not a factor for normal transportation projects, except for occasional blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 VdB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earth-moving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 ft of the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (FTA 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed, for most projects, that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction of the project could result in ground-borne vibration that could be perceptible and annoying. Ground-borne noise is not likely to be a problem as noise arriving via the normal airborne path usually will be greater than ground-borne noise.

Ground-borne vibration has the potential to disturb people as well as to damage buildings. Although it is very rare for mobile source-induced ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and the pile driving to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2006). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where L_v is the VdB, "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or $1x10^{-6}$ inches per second used in the United States. **Table 3.1** illustrates human response to various vibration levels, as described in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

TABLE 3.1
HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUND-BORNE NOISE AND VIBRATION

Vibration Velocity Level (VdB)	Noise Level (dBA)		Human Response
	Low Frequency[1]	Mid Frequency[2]	
65	25	40	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible, mid-frequency sound excessive for quiet sleeping areas.
75	35	50	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying. Low-frequency noise acceptable for sleeping areas, mid-frequency noise annoying in most quiet occupied areas.
85	45	60	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise annoying for sleeping areas, mid-frequency noise annoying even for infrequent events with institutional land uses such as schools and churches.

SOURCE: Federal Transit Administration. Table 7-1, *Transit Noise and Vibration Impact Assessment* (2006).

[1] Approximate noise level when vibration spectrum peak is near 30 Hz.

[2] Approximate noise level when vibration spectrum peak is near 60 Hz.

dBA = A-weighted decibels
FTA = Federal Transit Administration
Hz = Hertz
VdB = vibration velocity decibels

Factors that influence ground-borne vibration and noise include the following:

- **Vibration Source:** Vehicle/equipment suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration shows that vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface, resulting in ground-borne vibration problems at large distance from the source. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

3.1.1 Thresholds of Significance for Vibration

Federal Transit Administration and California Department of Transportation

The criteria for environmental impact from ground-borne vibration are based on the maximum levels for a single event. **Table 3.2** lists the potential vibration damage criteria associated with

construction activities, as suggested in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

TABLE 3.2
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (inch/sec)	Approximate L_V[1]
Reinforced-concrete, steel or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

SOURCE: Federal Transit Administration. Table 12-3, *Transit Noise and Vibration Impact Assessment* (2006).

[1] RMS velocity in decibels (VdB) re 1 µin/sec.

µin/sec = microinches per second
L_V = velocity in decibels
FTA = Federal Transit Administration
PPV = peak particle velocity
inch/sec = inches per second
RMS = root-mean-square

FTA guidelines show that a vibration level of up to 102 VdB (equivalent to 0.5 inch per second [inch/sec] in RMS) (FTA 2006) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 inch/sec in RMS). The RMS values for building damage thresholds referenced above are shown in **Table 3.3**, which is taken from the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013).

TABLE 3.3
GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

	Maximum PPV (inch/sec)	
Structure and Condition	**Transient Sources[1]**	**Continuous/Frequent Intermittent Sources[2]**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

SOURCE: Table 19, Transportation and Construction Vibration Guidance Manual (Caltrans 2013).

[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.

[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Caltrans = California Department of Transportation
inch/sec = inches per second
PPV = peak particle velocity

Based on Table 8-3 in the FTA's *Transit Noise and Vibration Impact Assessment* (FTA 2006), interpretation of vibration criteria for detailed analysis is 78 VdB for residential uses during daytime hours. During nighttime hours, the vibration criterion is 72 VdB. For office and office buildings, the FTA guidelines suggest that a vibration level of 84 VdB should be used for detailed analysis.

City of Riverside

The City's condition states that a vibration annoyance criteria limit of 78 VdB during the daytime should be used for sensitive receptors such as residences and/or churches.

3.1.2 Construction Vibration Impacts

Because vibration level in RMS is best for characterizing human response to building vibration and vibration level in PPV is best used to characterize potential for damage, this construction vibration impact analysis will discuss the human annoyance using vibration levels in VdB and will assess the potential for building damages using vibration levels in PPV (inch/sec).

Outdoor site preparation for the proposed project is expected to use a bulldozer, loader, a water truck, a concrete truck, and a forklift. It is anticipated that the greatest levels of vibration would occur during the site preparation phase. All other phases are expected to result in lower vibration levels.

The closest sensitive receptors are residences to the west of Riverside Canal, approximately 130 ft (-21 VdB compared to the vibration level measured at 25 ft) from the project boundary. The closest commercial building is approximately 59 ft (-11 VdB) to the south. The closest commercial building to the north is 105 ft (-19 VdB) from the project boundary. The closest commercial building to the east across Chicago Avenue is approximately 332 ft (-34 VdB) to the east.

Because vibration impacts occur normally within the buildings, the distance to the nearest sensitive uses, for vibration impact analysis purposes, is measured between the nearest off-site sensitive use buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary).

Bulldozers and other heavy-tracked construction equipment generate approximately 87 VdB of ground-borne vibration when measured at 25 ft, based on the *Transit Noise and Vibration Impact Assessment* (FTA 2006). This level of ground-borne vibration exceeds the threshold of human perception, which is around 65 VdB. Although this range of ground-borne vibration levels would result in potential annoyance to office workers in commercial/industrial buildings adjacent to the project site, they would not cause any damage to the buildings. Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside the office buildings in the project vicinity). As shown in **Table B**, FTA guidelines show that a vibration level of up to 102 VdB (an equivalent to 0.5 inch/sec in RMS) (FTA 2006) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry

building, the construction vibration damage criterion is 94 VdB (0.2 inch/sec in RMS). The RMS values for building damage thresholds referenced in **Table 3.4** were taken from the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013). **Table 3.4** further shows the PPV values at 25 ft from the construction vibration source as well as vibration levels in terms of VdB at 25 ft from the construction vibration source.

TABLE 3.4
VIBRATION SOURCE AMPLITUDES FOR CONSTRUCTION EQUIPMENT

	Reference PPV/L_V at 25 ft	
Equipment	**PPV (inch/sec)**	**L_V (VdB)**
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Earth Mover	**0.011**	**69**
Excavator	0.047	81
Fork Lift	**0.047**	**81**
Skid Steer	0.047	81
Wheel Loader	**0.076**	**86**
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	**0.076**	**86**
Jackhammer	0.035	79
Small Bulldozer	**0.003**	**58**

SOURCE: Federal Transit Administration. Table 12-2, *Transit Noise and Vibration Impact Assessment* (2006).
Note: Equipment and associated source vibration levels that are expected to be used on the project site are shown in **bold**.
ft = feet/foot
inch/sec = inch per second
L_V = velocity in decibels
PPV = peak particle velocity
VdB = vibration velocity decibels

Construction Vibration Structural Damages

Commercial buildings adjacent to the project site are approximately 59 ft and 105 ft, respectively, from the nearest construction area on the project site. Based on **Tables 3.2 and 3.3**, it would take a vibration PPV level of more than 0.5 inch/sec (or 102 VdB) to potentially result in any building damages. **Table 3.4** shows that none of the construction activities anticipated on the project site would result in a vibration level that would reach 0.5 inch/sec PPV (or 102 VdB) at 25 ft from each of the project construction equipment and/or activities. Other off-site buildings are farther away from the project site and would be exposed to even lower construction vibration levels. Therefore, no building damages would occur as a result of the project construction.

Construction Vibration Human Annoyance

Vibration levels from standard construction equipment are shown below for various pieces of construction equipment that are expected to be used on the project site:

- **Bulldozer:** 87 VdB at 25 ft
- **Water and Pickup Trucks:** 69 VdB at 25 ft
- **Concrete Pump Truck:** 69 VdB at 25 ft
- **Excavators:** 81 VdB at 25 ft
- **Jaw Crushers:** 72 VdB at 25 ft
- **Concrete Mix Truck:** 69 VdB at 25 ft
- **Front End Loader:** 86 VdB at 25 ft
- **Backhoe:** 69 VdB at 25 ft
- **Forklift:** 81 VdB at 25 ft
- **Grader**: 75 VdB at 25 ft
- **Scraper**: 69 VdB at 25 ft
- **Jack hammer**: 79 VdB at 25 ft
- **Compactor**: 81 VdB at 25 ft
- **Drill rig**: 79 VdB at 25 ft
- **Truck-mounted crane**: 75 VdB at 25 ft
- **Large Crane**: 81 VdB at 25 ft
- **Stringing rig**: 79 VdB at 25 ft
- **Portable generator**: 73 VdB at 25 ft
- **Puller/ tensioner**: 69 VdB at 25 ft

LvdB (D) = LvdB (25 ft) – 30 Log (D/25)

A vibration level at 50 ft is 9 VdB lower than the vibration level at 25 ft. Vibration at 100 ft from the source is 18 VdB lower than the vibration level at 25 ft. Therefore, receptors at 50 ft from the construction activity may be exposed to ground-borne vibration up to 78 VdB (or 0.030 inch/sec PPV or lower). Receptors at 100 ft from the source may be exposed to ground-borne vibration up to 69 VdB. At a distance of 130 ft, the vibration attenuation is 21 VdB. At a distance of 160 ft, the vibration attenuation is 24 VdB. At a distance of 190 ft, the vibration attenuation is 26 VdB. At a distance of 240 ft, the vibration attenuation is 29 VdB. At 300 ft, the vibration attenuation is 32 VdB. At 390 ft, the vibration attenuation is 36 VdB.

Table 3.5 lists the projected vibration level from various construction equipment expected to be used on the project site to the sensitive uses in the project vicinity. For the project construction activity, the equipment with the highest vibration generation potential is the large bulldozer, which would generate 87 VdB at 25 ft. With the vibration attenuation through distance

divergence, the vibration from project construction would be reduced by 21 and 36 VdB at the nearest residential buildings adjacent to the project site. The highest construction vibration levels at residential buildings adjacent to the project site would be 66 VdB or lower. Construction vibration from the project site would be reduced to 78 VdB or lower at commercial buildings adjacent to the project site.

This range of vibration levels from construction equipment or activity would be below the FTA threshold of 94 VdB (or 0.2 inch/sec PPV) for building damage. No significant construction vibration impacts would occur; therefore, no mitigation measures are required.

As shown in **Table 3.5**, all construction equipment vibration levels would not exceed the FTA's 78 VdB threshold at the nearest noise-sensitive receiver locations during daytime hours or the FTA's 84 VdB threshold for annoyance of occupants in commercial/industrial office buildings.

Summary of Construction Vibration Impacts

Table 3.5 lists the maximum vibration levels that would result from the on-site construction equipment. The projected maximum construction vibration level during project construction at the nearest noise-sensitive receiver locations would not exceed the FTA's vibration standards of 78 VdB for sensitive uses (residences) or the FTA's 84 VdB threshold for commercial/industrial office buildings. No significant construction vibration impacts would occur.

Mitigation Measures for Construction Vibration Impacts

No mitigation measures for vibration impacts are required during project construction.

TABLE 3.5
SUMMARY OF CONSTRUCTION EQUIPMENT AND ACTIVITY VIBRATION

Equipment/Activity	Vibration Level (VdB)			
	At 25 ft	Distance Attenuation	Intervening canal[1]	Maximum Vibration Level
Residences across Riverside Canal to the Southwest (130 to 240 ft)				
Large dozers, front end loaders, grader, backhoe	87	21 - 29	5	61
Loaded trucks	86	21 - 29	5	60
Jackhammers, forklift	79	21 – 29	5	53
Residences across Riverside Canal to the Northwest (160 to 190 ft)				
Large dozers, front end loaders, grader, backhoe	87	24 – 26	5	58
Loaded trucks	86	24 – 26	5	57
Jackhammers, forklift	79	24 – 26	5	50
Commercial Building to the North (100 ft)				
Large dozers, front end loaders, grader, backhoe	87	18	0	69
Loaded trucks	86	18	0	68
Jackhammers, forklift	79	18	0	61

TABLE 3.5
SUMMARY OF CONSTRUCTION EQUIPMENT AND ACTIVITY VIBRATION

Equipment/Activity	Vibration Level (VdB)			
	At 25 ft	Distance Attenuation	Intervening canal[1]	Maximum Vibration Level
Commercial Building to the South (50 ft)				
Large dozers, front end loaders, grader, backhoe	87	9	0	78
Loaded trucks	86	9	0	77
Jackhammers, forklift	79	9	0	70

Source: Compiled by ESA (2020).

Note: The FTA recommended building damage threshold is 0.2 inch/sec or approximately 94 VdB at the receiving property structure or building.

[1] Riverside Canal provides a damping effect on vibration.

[2] Large bulldozer represents the construction equipment with the highest vibration potential that would be used on site. Other equipment would result in a lower vibration when compared to that of large bulldozers.

ft = feet
FIDM = Fashion Institute of Design & Merchandising
FTA = Federal Transit Administration
inch/sec = inches per second
VdB = vibration velocity decibels

3.1.3 Operation Vibration Impacts

Electric hum around transformers is caused by stray magnetic fields causing the enclosure and accessories to vibrate. Magnetostriction is a second source of vibration, in which the core iron changes shape minutely when exposed to magnetic fields.

Transformer vibration (and consequently noise) is caused by the magnetostriction of the core laminates (the extension and contraction of the core laminates when magnetized). Under alternating fluxes, this extension and contraction takes place twice during a normal voltage or current cycle, resulting in vibration to occur mainly at 120 Hz and its higher order harmonics (multiples of 120 Hz, i.e., 240, 360, etc). In addition, a lower magnitude vibration also occurs at 60 Hz and its odd multiples, i.e. 180, 300, etc.

Project Design Features for Transformer Noise and Vibration Abatement

When transformers are rigidly (not resiliently) mounted on the floor (or any other structure supporting them), their vibration will transmit to the support structure and find its way in neighboring spaces (rooms, offices, laboratories, etc.), causing an annoying, tiring, tonal noise. This structure-borne noise issue can be addressed by:

- Isolating the core and coils of the transformer from the ground/floor, using proper vibration isolators. In air cooled dry transformers this means to isolate the core and coil from its support structure. For an oil filled unit it means to isolate the core and coil from its tank base and isolate its tank base from the support structure.

- Making certain all the connections to the surrounding are flexible. This includes incoming cables, busbars, stand-off insulators, etc. Note that any rigid connection from the vibrating transformer to a solid structure will transmit vibration.
- Avoiding the use of a room, to house a transformer, with dimensions corresponding to half wavelength of the transformer vibration/noise frequencies. That is, stay clear of the room acoustic resonances being perturbed by the transformer.

3.2 Mitigation Measures

Project Construction

With implementation of the Project Design Features, no mitigation measures would be necessary for the proposed project during construction.

Project Operations

No mitigation measures would be necessary for project operation.

3.3 Summary of Vibration Impact Analysis Results

Operation of the project would not expose persons to, or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the implementation of the project design features. Therefore, operation vibration impacts would be less than significant.

References

California Code of Regulations, Title 14, Section 15168(c).

California Department of Transportation, *Technical Noise Supplement* (TeNS). September, 2013.

City of Riverside, Noise Element and Municipal Code.

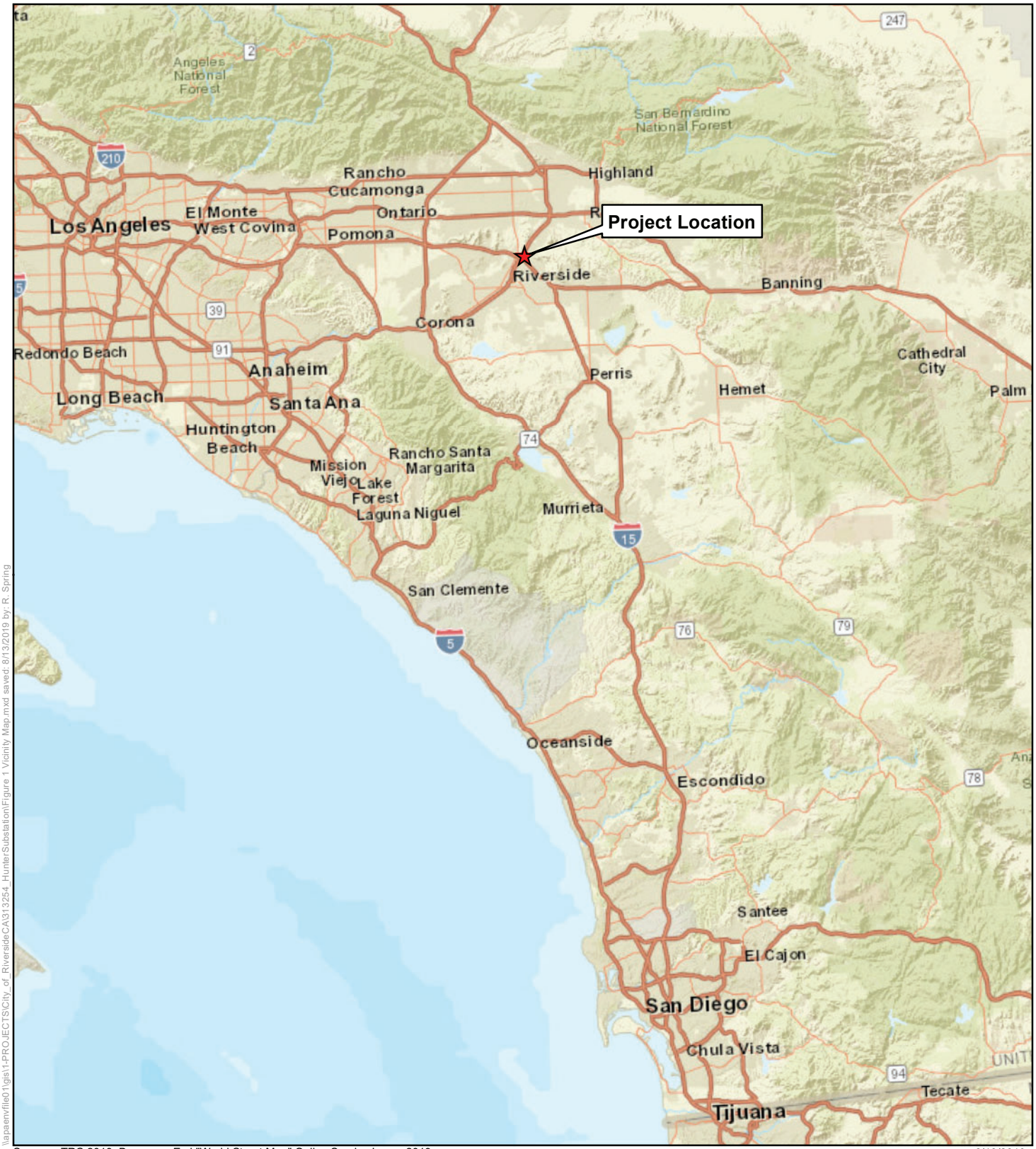
Federal Highway Administration, Roadway Construction Noise Model User's Guide, 2006.

FTA, 2006. Transit Noise and Vibration Impact Assessment. May 2006.

USEPA, *EPA Identifies Noise Levels Affecting Health and Welfare*. April 1974.

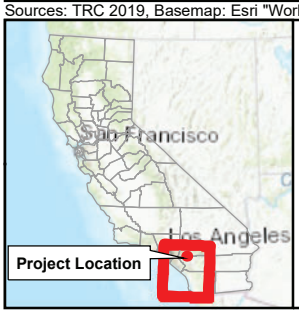
USEPA, Protective Noise Levels, Condensed Version of EPA Levels Document (EPA 550/9-79-100, November 1978)

Appendix A
Project Figures



Sources: TRC 2019, Basemap: Esri "World Street Map" Online Service Layer, 2019.

8/13/2019



★ Project Location

Hunter Substation Replacement Project
Vicinity Map
Figure 1

N

1:1,000,000
1 inch = 16 miles
(when printed 8.5x11)

0 8 16
Miles

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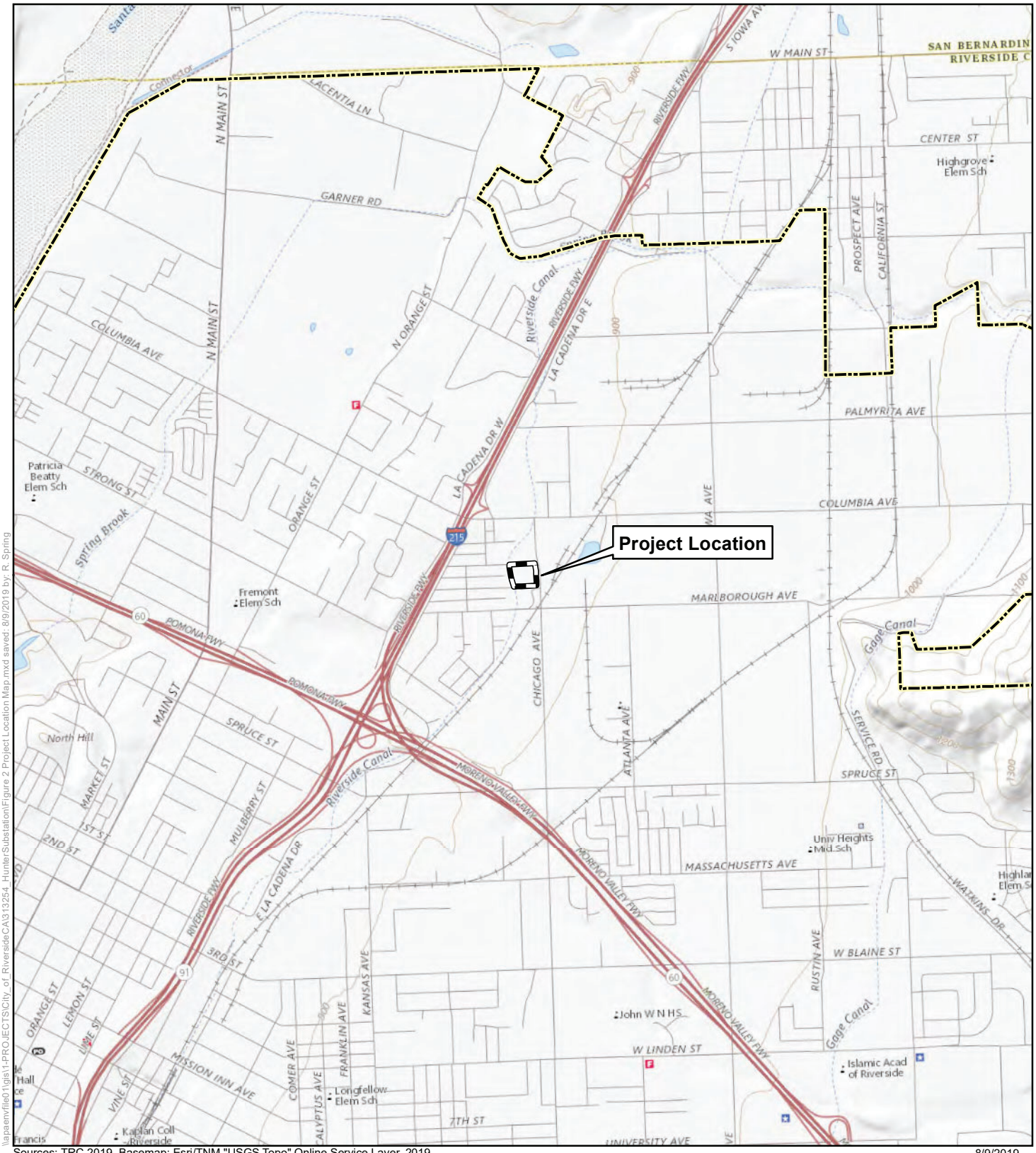
CITY OF RIVERSIDE PUBLIC UTILITIES

TRC

\\apaenvfile01\gis\1-PROJECTS\City_of_Riverside\CA\313254_HunterSubstation\Figure 1 Vicinity Map.mxd saved: 8/13/2019 by: R. Spring



Sources: TRC 2019, Basemap: Esri/TNM "USGS Topo" Online Service Layer, 2019.

8/9/2019

Project Location

City of Riverside Limits

Hunter Substation Replacement Project

Project Location Map

Figure 2

N

1:24,000
1 inch = 2,000 feet
(when printed 8.5x11)

0 1,000 2,000 Feet

\\apanvfile01\gis\1.PROJECTS\City_of_Riverside\CA313254_HunterSubstation\Figure 2 Project Location Map.mxd saved: 8/9/2019 by: R. Spring

\\apanvfile01\gis1\PROJECTS\City_of_RiversideCA\313254_HunterSubstation\Figure 3 Project Overview Map.mxd saved: 9/8/2019 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Esri/DigitalGlobe "World Imagery" Online Service Layer, 2018. 9/8/2019

- Overall Project Boundary
- Parcel Boundary
- Existing Hunter Substation Footprint
- Water Canal Easement

Hunter Substation Replacement Project
Project Overview Map
Figure 3

N

1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100 Feet

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TRC

\\aparenvfile01\gis1\PROJECTS\City_of_Riverside\CA313254_HunterSubstation\Figure 4 Existing Site Layout Map.mxd saved: 9/8/2019 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Esri/DigitalGlobe "World Imagery" Online Service Layer, 2018. 9/8/2019

Overall Project Boundary
Existing Hunter Substation Footprint
Water Canal Easement
Parcel Boundary

N

1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100
Feet

Hunter Substation Replacement Project
Existing Site Layout Map
Figure 4

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\\aparenvfile01\gis1\PROJECTS\City_of_RiversideCA\313254_HunterSubstation\Figure 5 Proposed Site Layout Map.mxd saved: 9/8/2019 by: R. Spring

Sources: TRC 2019; Parcel Boundaries Digital Map, 2019; Riverside Easement AGOL, 2019; Basemap: Esri/DigitalGlobe "World Imagery" Online Service Layer, 2018. 9/8/2019

Overall Project Boundary
Proposed Hunter Substation Footprint
Water Canal Easement
Parcel Boundary

N

1:1,200
1 inch = 100 feet
(when printed 8.5x11)

0 50 100 Feet

Hunter Substation Replacement Project
Proposed Site Layout Map
Figure 5

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APPENDIX E

Trip Generation Memo

KITTELSON & ASSOCIATES
750 THE CITY DRIVE, SUITE 410
ORANGE, CA 92868
P 714.468.1997

MEMORANDUM

Date: June 29, 2020 Project #: 24724

To: Joshua Taylor
Senior Project Manager/Lead Planner
TRC Companies, Inc.

From: Damian Stefanakis, Principal Planner
Hassan Ahmed, TE, Project Manager

Project: Hunter Substation Replacement Project

Subject: Trip Generation Memorandum

This technical memorandum documents the trip generation estimates prepared by Kittelson & Associates, Inc. for the proposed Hunter Substation Replacement Project in Riverside, CA (hereby referred to as the "proposed project"). The trip generation estimates are based on expected operations and maintenance activities of the new substation and expected construction activities as prepared by TRC Companies, Inc. (TRC).

PROJECT DESCRIPTION

Introduction

The existing Hunter Electrical Substation is located at 1731 Marlborough Avenue in the City of Riverside, California (City) on the northwest corner of the intersection of Chicago Avenue and Marlborough Avenue. The proposed project site consists of approximately 2.5 acres of land and includes the parcel with the existing substation as well as the currently vacant parcel located immediately to the west of the existing substation parcel. The proposed project would consist of construction of a new 69/12kV Hunter Substation on the currently vacant parcel, decommissioning and removal of the existing substation, and construction of a warehouse facility that will store equipment and materials used for operation and maintenance of the Riverside Public Utilities' electrical grid system.

Figure 1 provides an aerial view of the project site.

Figure 1: Aerial View of Project Site

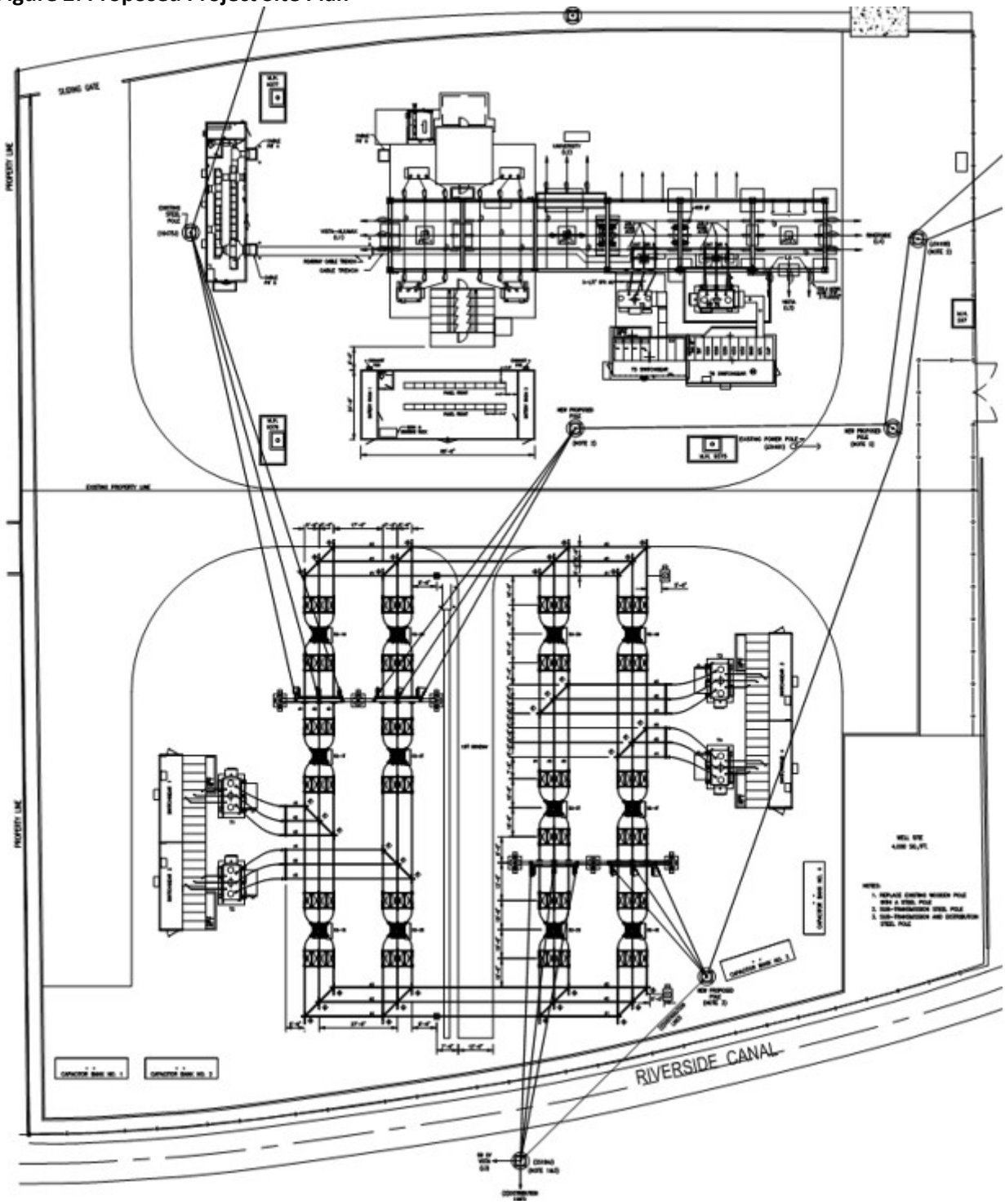
Source: Google Maps

Project Access

Access to the project site would be maintained via the two existing driveways located on Chicago Avenue. One driveway is located on the north side of the project site (approximately 30 feet south of the driveway of the industrial development to the north) and one driveway is located on the south side of the project site (approximately 50 feet north of Marlborough Avenue). The northern driveway will be extended to provide access to the western parcel. The southern driveway will also be extended to provide access to the western parcel as well as the water site located at the southwest corner of the project site. No new access issues are anticipated.

The project site plan is shown in Figure 2.

Figure 2: Proposed Project Site Plan



Source: TRC, September 2019

TRIP GENERATION ESTIMATES

Project Operations and Maintenance

When open and operational, the new substation would be unmanned and is expected to generate fewer maintenance and repair trips compared to the existing aging substation. Based on information provided by the proposed project sponsor, routine maintenance is expected to consist of a single light utility truck trip several times a week and larger maintenance truck trips several times a year for substation equipment maintenance. A major maintenance inspection is expected to take place annually, requiring approximately 10 workers for approximately one week. Routine maintenance for vegetation clearing and trimming is expected to generate one or two small maintenance vehicles on an as needed basis.

Proposed Project Construction Activities

Based on information provided by TRC, the construction activities associated with the proposed project would consist of 12 phases and occur from April of 2022 to November of 2023. With the exception of Phase 2, which would overlap with Phases 3a and 3b, all other phases would occur independently without any overlaps.

The expected number of daily passenger vehicle and truck trips as well as the expected passenger car equivalent (PCE) peak hour trips are presented in Table 1. For the purposes of this assessment, a PCE factor of 3.0 was applied to the truck trips to convert them to passenger vehicle trips. Further, it was assumed that 10% of daily trips would occur during the peak hour (AM or PM). As shown in Table 1, the construction activities associated with the proposed project would generate a maximum number of eight (8) trips during the peak hour. This occurs during Phase 5 of the construction activities.

The data provided by TRC is provided in the attachment.

Table 1: Trip Generation Estimates – Construction Activities

Construction Phases	Daily Passenger Vehicle Trips	Daily Truck Trips		Total Daily Trips	Estimated Peak Hour Trips [b]
		Number of Trucks	PCE Equivalent [a]		
Phase 1 - Mobilization and Set-Up	10	2	6	16	2
Phase 2 - Material Delivery and Set-up	8	4	12	20	2
Phase 3a - Grading & Site Preparation (Western Parcel)	16	8	24	40	4
Phase 3b - Temp Line Relocations	10	2	6	16	2
Phase 4a - Civil Survey and Marking	6	N/A	N/A	N/A	N/A
Phase 4b - Below-grade Civil Construction (Western Parcel)	20	8	24	44	5
Phase 4c - Below-grade Electrical Construction (Western Parcel)	16	4	12	28	3
Phase 5 - Underground Distribution Getaways	20	20	60	80	8
Phase 6a - Above-grade Structural Construction	20	2	6	26	3
Phase 6b - Above-grade Electrical Construction	30	2	6	36	4
Phase 7 - Sub-transmission Line Getaways	10	2	6	16	2
Phase 8 - Substation Testing, Energization, & Cutover	12	N/A	N/A	N/A	N/A
Phase 9 - Demolition of the Old Substation	20	16	48	68	7
Phase 10 - Grading and Site Preparation (Easter Parcel)	16	8	24	40	4
Phase 11 - Below-grade Construction (Storage Facility)	20	8	24	44	5
Phase 12 - Above-grade Construction (Storage Facility)	16	2	6	22	3

Notes:
[a] A passenger car equivalent (PCE) factor of 3.0 was applied.
[b] It was assumed that 10% of daily trucks would occur during the peak hour.

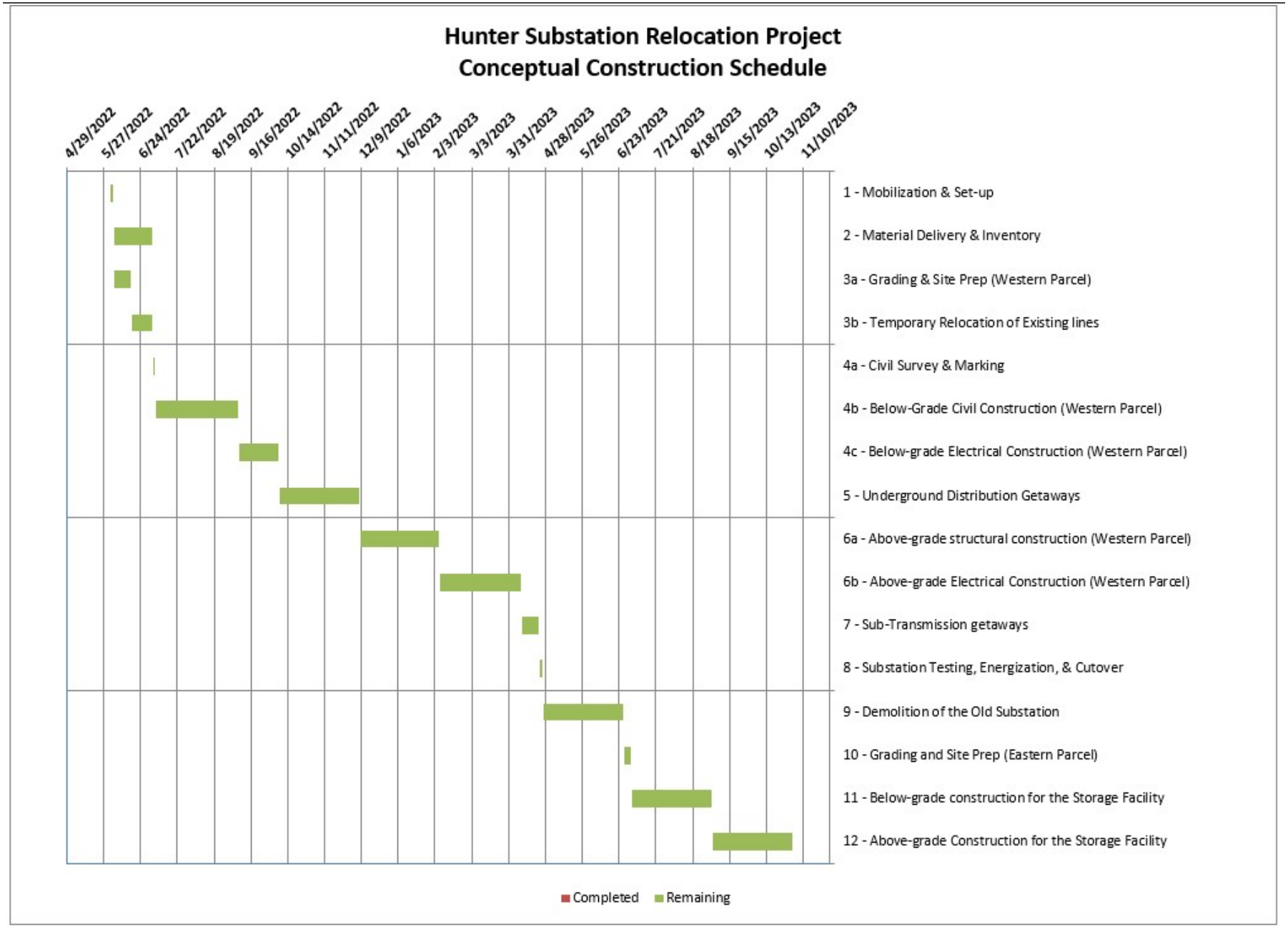
CONCLUSION

The proposed project would consist of construction of a new 69/12kV Hunter Substation, decommissioning and removal of the existing substation, and construction of a warehouse facility that will store equipment and materials used for operation and maintenance of the Riverside Public Utilities' electrical grid system on a 2.5-acre site. Access to the project site would be maintained via the two existing driveways located on Chicago Avenue.

When open and operational, the new substation would be unmanned and is expected to generate only a handful of maintenance and repair trips per week. Therefore no impacts are anticipated during normal activities.

The construction activities associated with the proposed project are expected to generate a maximum of eight (8) trips during the peak hour. This occurs during Phase 5 of the construction activities. As presented in the City of Riverside Traffic Impact Analysis Preparation Guide (City of Riverside, Public Works Department, April 2019), a local/focused traffic impact analysis study may be requested if a project generates more than 50 peak hour trips. The proposed project is expected to generate fewer than 50 peak hour trips when open and operational and during construction activities. As such, no additional traffic impact analysis is required for the proposed project.

ATTACHMENT


Hunter Substation Relocation Project
Conceptual Construction Schedule
4/29/2022
5/27/2022
6/24/2022
7/22/2022
8/19/2022
9/16/2022
10/14/2022
11/11/2022
12/9/2022
1/6/2023
2/3/2023
3/3/2023
3/31/2023
4/28/2023
5/26/2023
6/23/2023
7/21/2023
8/18/2023
9/15/2023
10/13/2023
11/10/2023
1 - Mobilization & Set-up
2 - Material Delivery & Inventory
3a - Grading & Site Prep (Western Parcel)
3b - Temporary Relocation of Existing lines
4a - Civil Survey & Marking
4b - Below-Grade Civil Construction (Western Parcel)
4c - Below-grade Electrical Construction (Western Parcel)
5 - Underground Distribution Getaways
6a - Above-grade structural construction (Western Parcel)
6b - Above-grade Electrical Construction (Western Parcel)
7 - Sub-Transmission getaways
8 - Substation Testing, Energization, & Cutover
9 - Demolition of the Old Substation
10 - Grading and Site Prep (Eastern Parcel)
11 - Below-grade construction for the Storage Facility
12 - Above-grade Construction for the Storage Facility
Completed
Remaining

	Start Date	Completed	Remaining	End Date
1 - Mobilization & Set-up	6/1/2022	0	2	6/3/2022
2 - Material Delivery & Inventory	6/4/2022	0	29	7/3/2022
3a - Grading & Site Prep (Western Parcel)	6/4/2022	0	13	6/17/2022
3b - Temporary Relocation of Existing lines	6/18/2022	0	15	7/3/2022
4a - Civil Survey & Marking	7/4/2022	0	1	7/5/2022
4b - Below-Grade Civil Construction (Western Parcel)	7/6/2022	0	62	9/6/2022
4c - Below-grade Electrical Construction (Western Parcel)	9/7/2022	0	30	10/7/2022
5 - Underground Distribution Getaways	10/8/2022	0	60	12/7/2022
6a - Above-grade structural construction (Western Parcel)	12/8/2022	0	60	2/6/2023
6b - Above-grade Electrical Construction (Western Parcel)	2/7/2023	0	61	4/9/2023
7 - Sub-Transmission getaways	4/10/2023	0	13	4/23/2023
8 - Substation Testing, Energization, & Cutover	4/24/2023	0	2	4/26/2023
9 - Demolition of the Old Substation	4/27/2023	0	60	6/26/2023
10 - Grading and Site Prep (Eastern Parcel)	6/27/2023	0	5	7/2/2023
11 - Below-grade construction for the Storage Facility	7/3/2023	0	60	9/1/2023
12 - Above-grade Construction for the Storage Facility	9/2/2023	0	61	11/2/2023

Construction Personnel Daily Trips by Construction Phase			
Construction Phase	**Estimated No. of Workers**	**Estimated No. of Vehicles**	**Estimated No. of one-way Daily Trips**
Phase 1 - Mobilization and Set-Up	5	5	10
Phase 2 - Material Delivery and Set-up	4	4	8
Phase 3a - Grading & Site Preparation (Western Parcel)	8	8	16
Phase 3b - Temp Line Relocations	5	5	10
Phase 4a - Civil Survey and Marking	3	3	6
Phase 4b - Below-grade Civil Construction (Western Parcel)	10	10	20
Phase 4c - Below-grade Electrical Construction (Western Parcel)	8	8	16
Phase 5 - Underground Distribution Getaways	10	10	20
Phase 6a - Above-grade Structural Construction	10	10	20
Phase 6b - Above-grade Electrical Construction	15	15	30
Phase 7 - Sub-transmission Line Getaways	5	5	10
Phase 8 - Substation Testing, Energization, & Cutover	6	6	12
Phase 9 - Demolition of the Old Substation	10	10	20
Phase 10 - Grading and Site Preparation (Easter Parcel)	8	8	16
Phase 11 - Below-grade Construction (Storage Facility)	10	10	20
Phase 12 - Above-grade Construction (Storage Facility)	8	8	16

Notes:

Assumes worst case, with 1 car per worker.

Trips to the Project site in the morning would occur prior to peak AM hours, as work typically begins at 7am.

Worker return trips vary by time of year and specific construction task. Return trips can occur anywhere between 2pm and 7pm.